

Supporting Statement A

USGS ASHFALL REPORT

OMB Control Number 1028-0106

Terms of Clearance: None

Justification

1. **Explain the circumstances that make the collection of information necessary. Identify any legal or administrative requirements that necessitate the collection.**

Response:

The mission of the U.S. Geological Survey (USGS) Volcano Hazards Program (VHP) under the Disaster Relief Act (42 USC 5121-5170) is to enhance public safety and reduce losses from volcanic events through effective forecasts and warnings of volcanic hazards based on the best possible scientific information. The VHP conducts four major science activities to reduce volcanic risk in the Nation: (1) monitoring volcano unrest and eruption, (2) preparing volcano hazard assessments, (3) conducting research on volcanic processes, and (4) providing reliable forecasts, warnings, and volcano-hazard information.

The Alaska Volcano Observatory (AVO) is a joint program of the USGS, the Geophysical Institute of the University of Alaska Fairbanks (UAFGI), and the State of Alaska Division of Geological and Geophysical Surveys (ADGGS). AVO was formed in 1988, and uses federal, state, and university resources to monitor and study Alaska's hazardous volcanoes, to predict and record eruptive activity, and to mitigate volcanic hazards to life and property.

2. **Indicate how, by whom, and for what purpose the information is to be used. Except for a new collection, indicate the actual use the agency has made of the information received from the current collection. Be specific. If this collection is a form or a questionnaire, every question needs to be justified.**

Response:

This project uses a database module and web interface allowing the public and AVO staff to enter reports of ashfall in their local area in real time and retrospectively following an eruptive event. Users browsing the AVO web site during eruptions will be directed towards a web form allowing them to fill in ashfall information and submit the information to AVO.

USGS uses reports entered in real time by respondents of ashfall in their local area to correct or refine ashfall forecasts as the ash cloud moves downwind. Retrospectively these reports enable the USGS to improve their ashfall models and further research into eruptive processes. The public directly benefits from this because accurate ashfall advisory statements enable the public to know what to do and where ash is falling in their areas allowing them to take safety measures to prevent impacts. AVO scientists may use some of the information entered by the public in qualitative description fields in publications; they would be identified as "an observer" and their location given in general terms.

The database module and web interface saves the USGS significant staff time by allowing the public and AVO staff to enter reports of ashfall in their local area in real time and retrospectively following an eruptive event. Currently, dedicated staff are needed to receive and compile ashfall reports during eruptions via phone and email submissions. This new system will encourage a greater number of reports to be made by the public by allowing an easy means of communicating with AVO as well as make the entire data collection process more efficient (reporting, analysis of reports, and summarizing reports).

The questions on the form can be grouped in four categories:

1) Location of the ashfall event

This includes the time, date, and location the user made the observation. Location information questions include the address, city, state, zip code, additional GPS/location information, and latitude and longitude coordinates that are derived from an interactive map on the reporting form. Location information is necessary to be able to verify ashfall observations as a quality control measure. This is particularly important for data that do not seem valid.

2) Observation Characteristics

Respondents are asked to provide basic information about their observation including the time ash started and stopped falling, how thick the ash layer was, weather conditions, and the type of sample taken. This information is necessary because these data are fundamental to providing hazard information in public statements as well as helping to validate ashfall numerical models so that ashfall forecasts using models can be used in future eruptions.

3) Basic Contact information

This information is optional and includes name, email, and phone number. We also ask respondents to indicate if we can call them for more information. We do this to respect their privacy and so that they will expect a call from us to follow up on their observations.

4) Taking and submitting a physical ashfall sample

This is an optional opportunity to obtain more detailed information about the ashfall event. These samples help us understand the composition, volume, and dispersal pattern

of the ash. The area over which ash can fall is large, and ash-fall deposits can be ephemeral. Timely access is often difficult for us. Local individuals are ideally positioned to collect timely and quality samples.

- 3. Describe whether, and to what extent, the collection of information involves the use of automated, electronic, mechanical, or other technological collection techniques or other forms of information technology, e.g., permitting electronic submission of responses, and the basis for the decision for adopting this means of collection. Also describe any consideration of using information technology to reduce burden and specifically how this collection meets GPEA requirements.**

This project uses a database module and web interface permitting electronic submission of responses from the public and Alaska Volcano Observatory (AVO) staff to enter reports of ashfall. Based on exorbitant staff time requirements to collect this information in person, by phone, or by email we designed an efficient on-line mechanism for collecting ashfall account information from the public as well as a place to put our own accounts of ashfall. People can also submit paper-based observations by downloading the instructions and datasheets on our website. Physical ashfall samples can only be submitted via mail.

- 4 Describe efforts to identify duplication. Show specifically why any similar information already available cannot be used or modified for use for the purposes described in Item 2 above.**

No other organization gathers this type of information at the national scale like USGS; nothing like this database exists.

- 4. If the collection of information impacts small businesses or other small entities, describe any methods used to minimize burden.**

This collection does not impact small business or other small entities.

- 6. Describe the consequence to Federal program or policy activities if the collection is not conducted or is conducted less frequently, as well as any technical or legal obstacles to reducing burden.**

Because AVO is located at a distance from Alaskan volcanoes, observations from the public are key to validating satellite data and numerical models which are used to guide official ashfall advisory statements to the public. The public are our “feet on the ground” primary observers of ashfall and their observations significantly help to improve official hazard messages.

If this information is not collected, the USGS and DOI would be unable to meet the

requirements of the Disaster Relief Act. The electronic form greatly reduces the time and reporting burden on the public and AVO staff. The online form will also increase the number of respondents because we are able to reach a broader audience (the internet form is available 24x7 anywhere in the country).

The information will be more rapidly known to AVO staff in the Operations Room during crisis so they can relay information on the timing and amount of ashfall to the National Weather Service for use in updating their Ashfall Advisory public statements.

7. **Explain any special circumstances that would cause an information collection to be conducted in a manner:**
- * **requiring respondents to report information to the agency more often than quarterly; Not applicable; all responses are voluntary**
 - * **requiring respondents to prepare a written response to a collection of information in fewer than 30 days after receipt of it; Not applicable**
 - * **requiring respondents to submit more than an original and two copies of any document; Not applicable**
 - * **requiring respondents to retain records, other than health, medical, government contract, grant-in-aid, or tax records, for more than three years; Not applicable**
 - * **in connection with a statistical survey that is not designed to produce valid and reliable results that can be generalized to the universe of study; Not applicable**
 - * **requiring the use of a statistical data classification that has not been reviewed and approved by OMB; Not applicable**
 - * **that includes a pledge of confidentiality that is not supported by authority established in statute or regulation, that is not supported by disclosure and data security policies that are consistent with the pledge, or which unnecessarily impedes sharing of data with other agencies for compatible confidential use; or**
 - * **requiring respondents to submit proprietary trade secrets, or other confidential information, unless the agency can demonstrate that it has instituted procedures to protect the information's confidentiality to the extent permitted by law.**

Not applicable

8. **If applicable, provide a copy and identify the date and page number of publication in the Federal Register of the agency's notice, required by 5 CFR 1320.8(d), soliciting comments on the information collection prior to submission to OMB. Summarize public comments received in response to that notice and in response to the PRA statement associated with the collection over the past three years, and describe actions taken by the agency in response to these comments. Specifically address comments received on cost and hour burden.**

The public notice was published on 5/8/2019 at 84 FR 20160. No comments were received.

Describe efforts to consult with persons outside the agency to obtain their views on the availability of data, frequency of collection, the clarity of instructions and

recordkeeping, disclosure, or reporting format (if any), and on the data elements to be recorded, disclosed, or reported.

Consultation with representatives of those from whom information is to be obtained or those who must compile records should occur at least once every three years — even if the collection of information activity is the same as in prior periods. There may be circumstances that may preclude consultation in a specific situation. These circumstances should be explained.

When the system was first designed, and periodically since, we consulted the following individuals for feedback:

AK-DGGS/ Alaska Volcano Observatory Fairbanks, Alaska Suggestions for improvement: Let the form be led by questions and show only necessary forms depending on answers to those questions-this will tend to encourage people to fill out a form and not get overwhelmed.
USGS /Alaska Volcano Observatory Anchorage, Alaska Suggestions for improvement: Show only + or – accounts but not amount of ash –thickness this is often erroneous and may be alarmist if not verified before showing up on a map.
USGS /Alaska Volcano Observatory Anchorage, Alaska Suggestions for improvement: Use the same terms as the NWS to build transparency in information products.
GNS Science New Zealand Suggestions for improvement: Make into a phone app.
University of Canterbury Suggestions for improvement: Encourage ash sampling as much as possible on the site.

9. Explain any decision to provide any payment or gift to respondents, other than remuneration of contractors or grantees.

Not applicable, although we do automatically send thank you emails to respondents. For those who send in samples, we send thank you cards in the mail.

10. Describe any assurance of confidentiality provided to respondents and the basis for the assurance in statute, regulation, or agency policy.

On the last webform, we state the following:

****No personally identifiable information will be distributed; all personally identifiable information will be used internally by the Alaska Volcano Observatory (AVO). AVO scientists may use some of the information that you enter in qualitative description fields in publications; you would be identified as "an observer" and your location given in general terms. Parts of some first-person accounts may be reproduced as quotations in AVO publications. Location information will only be used to generally show the location of ashfall on maps and by the NWS to update their Ashfall Advisory statements. The AVO and NWS work collaboratively to track ashfall and all personally identifiable data will be kept internal to both agencies and not distributed. ****

If you click the checkbox below, an AVO scientist may contact you to ask more in-depth questions about your report.

Can we call you for more information?

We do this to protect their privacy. We also limit the scale of the map view of their ashfall report to a city view so that the location of any report is only displayed at a city view, not a neighborhood and certainly not a house or specific location.

11. Provide additional justification for any questions of a sensitive nature, such as sexual behavior and attitudes, religious beliefs, and other matters that are commonly considered private. This justification should include the reasons why the agency considers the questions necessary, the specific uses to be made of the information, the explanation to be given to persons from whom the information is requested, and any steps to be taken to obtain their consent.

This collection does not include sensitive or private questions.

12. Provide estimates of the hour burden of the collection of information. The statement should:

- * Indicate the number of respondents, frequency of response, annual hour burden, and an explanation of how the burden was estimated. Unless directed to do so, agencies should not conduct special surveys to obtain information on which to base hour burden estimates. Consultation with a sample (fewer than 10) of potential respondents is desirable. If the hour burden on respondents is expected to vary widely because of differences in activity, size, or complexity, show the range of estimated hour burden, and explain the reasons for the variance. Generally, estimates should not include burden hours for customary and usual business practices.**
- * If this request for approval covers more than one form, provide separate hour burden estimates for each form and aggregate the hour burdens.**
- * Provide estimates of annualized cost to respondents for the hour burdens for collections of information, identifying and using appropriate wage rate categories.**

The cost of contracting out or paying outside parties for information collection activities should not be included here.

We estimate the dollar value of the annual burden hours to be \$2,906. The hour cost is based on Bureau of Labor Statistics (BLS) News Release USDL-19-0449 of March 19, 2019, for average full compensation per hour including benefits. The particular values utilized are:

- Individuals. Average hourly wage is \$36.32

We expect approximately 200 individuals to submit ashfall reports using our webform system during any given Cook Inlet eruption. Cook Inlet volcanoes are located nearest to population centers and are active on average about every 2-10 years which means we expect 0-200 responses in any given year. This is based on the number of calls we typically get on ashfall accounts during eruptions and our consultation listed in question 8. Individuals are likely to submit an ashfall report every time an ashfall event occurs in their location which could be one or more times during an eruption which may occur 0-2 times per year in Alaska based on frequency of eruptive activity in Alaska.

Although not required, respondents are encouraged to review the web and video instructions for collecting ashfall samples.

Participant / Activity	Number of Responses	Minutes per response	Hourly Pay Rate	Total Annual Burden Hours	Total Annual Burden Value
Review Web Instructions for collecting ashfall samples	200	10 minutes	\$36.32	33	\$1199
Watch tutorial video for collecting an ashfall sample	75	22 minutes	\$36.32	27	\$1017
Collect an ashfall sample	50	4 Minutes	\$36.32	3	\$109
Complete Collection Data Sheet	50	3 Minutes	\$36.32	3	\$109
Complete Web Observation Form	200	4 minutes	\$36.32	13	\$472
Total	575			79	\$2,870

13. Provide an estimate of the total annual non-hour cost burden to respondents or recordkeepers resulting from the collection of information. (Do not include the cost of any hour burden already reflected in item 12.)

- * The cost estimate should be split into two components: (a) a total capital and start-up cost component (annualized over its expected useful life) and (b) a total operation and maintenance and purchase of services component. The estimates should take into account costs associated with generating, maintaining, and disclosing or providing the information (including filing fees paid for form processing). Include descriptions of methods used to estimate major cost factors including system and technology acquisition, expected useful life of capital equipment, the discount rate(s), and the time period over which costs will be incurred. Capital and start-up costs include, among other items, preparations for collecting information such as purchasing computers and software; monitoring, sampling, drilling and testing equipment; and record storage facilities.
- * If cost estimates are expected to vary widely, agencies should present ranges of cost burdens and explain the reasons for the variance. The cost of purchasing or contracting out information collection services should be a part of this cost burden estimate. In developing cost burden estimates, agencies may consult with a sample of respondents (fewer than 10), utilize the 60-day pre-OMB submission public comment process and use existing economic or regulatory impact analysis associated with the rulemaking containing the information collection, as appropriate.
- * Generally, estimates should not include purchases of equipment or services, or portions thereof, made: (1) prior to October 1, 1995, (2) to achieve regulatory compliance with requirements not associated with the information collection, (3) for reasons other than to provide information or keep records for the government, or (4) as part of customary and usual business or private practices.

Although not required, respondents may voluntarily collect an ashfall sample. We suggest supplies on our website for respondents to use to assist them with their collection. Most respondents are likely to already possess the items; however they are listed below:

Non-Hour Cost Burden to Public			
Item	Cost*	Estimated Number of Respondents Expected to Use	Non-Hour Cost Burden
Postage	0.50	50	\$25
Plastic zip lock bag	\$0.16	50	\$8
Ruler	\$1.29	50	\$65
Measuring tape	\$3.29	50	\$165
Permanent marking pen	\$1.29	50	\$65
Spatula, putty knife, or similar Implement	\$1.99	50	\$100

Container	\$1.33	50	\$67
Paper	\$.01	50	\$1
Tin foil	\$4.79	50	\$240
Cost Per Response**	\$14.15	Total Non-Hour Burden Cost	\$736

*Unit costs estimated from staples.com

**This is the cost per response if a respondent must purchase each item before they collect a sample. Many of these items are already likely to be possessed by the respondent. Similarly, respondents who have already taken samples can likely reuse many of the materials listed above.

14. Provide estimates of annualized cost to the Federal government. Also, provide a description of the method used to estimate cost, which should include quantification of hours, operational expenses (such as equipment, overhead, printing, and support staff), and any other expense that would not have been incurred without this collection of information.

OPM SALARY TABLE 2019-AK was used to estimate hourly costs with a 1.6 multiplier for benefits (fully loaded hourly rate)

Position	Grade / Step	Hourly Rate	Annu Hrs by Fed	Fully Loaded Hr Rate	Total Labor Value
<i>Project Lead, Geologist</i>	13/4	\$52.10	40	\$83.36	\$3,334

The Total Federal Cost per year is \$3,334.

15. Explain the reasons for any program changes or adjustments in hour or cost burden.

Eruptions in the Cook Inlet impact the greatest population of Alaska and therefore we expect a much greater response from the public in terms of ashfall accounts and sample collections. The 2009 eruption of Redoubt in the Cook Inlet and that of Augustine in 2006 proved this to be true.

16. For collections of information whose results will be published, outline plans for tabulation and publication. Address any complex analytical techniques that will be used. Provide the time schedule for the entire project, including beginning and ending dates of the collection of information, completion of report, publication dates, and other actions.

Maps showing ashfall accounts for individual explosions and for whole eruptions will be displayed retrospectively on our website. Such figures will also likely be published in professional peer-reviewed journal articles as a tool to summarize ashfall from an eruption. We may use some of the information entered in the forms as qualitative description fields in publications; respondents would be identified as "an observer" and their location given in general terms. Parts of some first-person accounts may be reproduced as quotations in AVO publications given explicit permission of the respondent. Location information will only be used to generally show the location of ashfall on maps and by the NWS to update their Ashfall Advisory statements.

17. If seeking approval to not display the expiration date for OMB approval of the information collection, explain the reasons that display would be inappropriate.

Not applicable.

18. Explain each exception to the topics of the certification statement identified in "Certification for Paperwork Reduction Act Submissions."

There are no exceptions.