

1Supporting Statement A

DID YOU FEEL IT? EARTHQUAKE QUESTIONNAIRE

OMB Control Number 1028-0048

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.**

The U.S. Geological Survey (USGS), in accordance with the Earthquake Hazards Reduction Act (National Earthquake Hazards Reduction Program (NEHRP), 42 USC 7701, is required to collect, evaluate, publish, and distribute information concerning earthquakes. Accordingly, Survey policy (Geological Survey Manual 120.1.1) requires geophysical surveys and investigations of earthquakes affecting the United States and its territories and offshore areas. The information required is for studies of the nature of earthquakes and the mitigation of the impact of earthquakes on the public. The U.S. Government has collected these data continuously since 1930 using this questionnaire.

- 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.**

The information is used by the USGS to provide overviews of the effects produced by earthquakes on humans and on the human environment. Summaries of the effects of earthquakes, and isoseismal maps that represent these effects in map form are published in *Preliminary Determination of Epicenters* publications of the USGS, in Open-File Reports, or in research publications. Summaries and maps are also distributed electronically from USGS earthquake information webpages. In 1998 we began experimenting with an electronic version of the form on the World-Wide Web as a way of collecting information from people who were looking at the USGS earthquake information website. The experiment was so successful and the number of responses for significant earthquake increased so quickly, that we were able to eliminate other collection methods. We have collected data exclusively with the web-based questionnaire since 2002.

- 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.

In 2002, the “Did You Feel It?” survey switched from an entirely paper driven process to an electronic process whereby participants may, and are encouraged, to submit their data via the Internet. The electronic form is located at

http://earthquake.usgs.gov/earthquakes/eventpage/unknown#impact_tellus (link for felt but unlisted event)

and http://earthquake.usgs.gov/earthquakes/eventpage/idxxxx#impact_tellus (link for a specific earthquake, where idxxxx is the ID number for the earthquake). The most recent version of the form is

mobile-friendly and is capable of obtaining the location information in four different ways: 1) the user can enter an address, 2) or a latitude and longitude, 3) the user can move a marker on a map to the location, or 4) if the device is GPS-enabled, the user can allow the software to obtain the user’s current location. The electronic form does not increase the amount of time that it takes the respondent to complete the survey. However the electronic format reduces the burden of printing a hard copy of the form and returning the completed form to the USGS to be manually entered into a database. The USGS has created a nearly fully automated system to process the data that are collected on line, which enables a huge savings of USGS personnel time.

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 earthquake information at the national scale like the USGS *Did You Feel It? Questionnaire*. Since the damage/effects from earthquakes vary with each earthquake, there is no available information that can be used in lieu of that supplied by each questionnaire.

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

This information does not affect small businesses 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.

Web Questionnaires are posted on the USGS website (<http://earthquake.usgs.gov/earthquakes/dyfi/>) within minutes following earthquakes that might be large enough to be felt. Questionnaires are made available to respondents immediately after the occurrence of the earthquake, because most respondents are able to provide the most reliable information soon after the occurrence of the event. For the type of earthquake for which data is collected, the frequency of collection cannot be reduced, because each such earthquake has the potential to provide unique information. Failure to collect this information would mean that the intensity database for United States earthquakes would become out-of-date. This lack of

information would seriously affect research on seismic risk in the United States.

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 in this collection.

- * requiring respondents to prepare a written response to a collection of information in fewer than 30 days after receipt of it;**

Not applicable in this collection.

- * requiring respondents to submit more than an original and two copies of any document;**

Not applicable in this collection.

- * 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 this collection.

- * 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 in this collection.

- * requiring the use of a statistical data classification that has not been reviewed and approved by OMB;**

Not applicable in this collection.

- * 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**

Not applicable in this collection.

- * 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.**

This collection does not require proprietary, trade secret, or other confidential information not protected by agency procedures.

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.

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.

The 60-day FRN was published 12/05/2017 at 82 FR 57466.

In addition to our Federal Register Notice, feedback from the community that applies our data to scientific and engineering purposes by publishing technical papers on the methodology and by giving technical presentations at meetings of scientific societies. The respondents said that the application instructions were clear. The respondents also concurred with our estimated burden time for the application to be about six minutes.

For the past 75 years, Federal, State, and local government personnel have filled out a similar questionnaire. The web-based methodology was described to the seismological and earthquake engineering community in the publication: Wald, D.J., Quitoriano, V., Dengler, L.A., and Dewey, J.W., 1999, Utilization of the Internet for Rapid Community Intensity Maps: Seismological Research Letters, v. 70, p. 680-697. We also note, that the questionnaire includes an "Additional Comments" section, within which respondents sometimes make suggestions for improving specific aspects of the Web questionnaire and associated website. We have refined and updated the web questionnaire and the websites over the years, based on feedback from a variety of peer-reviews and comments. The website has been updated to use HTML5 and CSS3 in order to support responsive display so that it renders properly and is user-friendly on both a large desktop browser and a small-format mobile device.

In 2010 and 2011, we received a detailed review of our questionnaire by representatives of the Macroseismic Working Group of the European Seismological Commission. The lead representative of that group, Dr. Roger Musson, is listed below. Feedback on our questionnaire was positive and many aspects of our questionnaire are currently being adopted internationally. In 2013, The Commons LabScience and Technology Innovation Program at the Woodrow Wilson International Center for Scholars developed guidelines for Citizen Science for other Federal agencies by analyzing our data collection and system. This was published as: Young, J. C., D. J. Wald, P. S. Earle, and L. A. Shanley: Transforming Earthquake Detection and Science Through Citizen Seismology, Washington, DC: Woodrow Wilson International Center for Scholars, 2013.

We consulted with the individuals listed in the table to obtain their views on the information presented in our instrument. Several modifications to the format and design of the application were suggested during the testing period and these have been incorporated.

Table 1: Collaboration on Design

| | |
|--|---|
| Humboldt State University, Dept of Geology Arcata, CA | Woodrow Wilson International Center for Scholars Washington, DC |
| British Geological Survey Edinburgh, Great Britain | |

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

No payments or gifts are given to respondents.

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

The records for this collection are maintained in the Privacy Act System of Records identified as Earthquake Hazards Program Earthquake Information (Interior/USGS-2), published at 74 FR 34033 (July 14, 2009).

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.

The 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.**

The questionnaire is sometimes completed by the same person for different earthquakes, since earthquakes occur more often in some areas. The exceptionally high response rates (we have received as many as 170,000 responses for individual earthquakes and more than 10,000 responses for a number of earthquakes) indicates that respondents recognize the importance of providing this information for research purposes in order to find ways in which to avoid loss of life and extensive damage due to earthquakes.

Based on our own experience and feedback received from the consultation process, we estimate it will take an average of 3 minutes for the respondent to supply the requested information, once the respondent has chosen to visit the questionnaire webpage and fill out the form. This includes time needed to read and understand the questions and answer choices. Therefore, we have reduced the average response time from 6 minutes to 3 minutes.

Information is already acquired in the normal course of business and personal activities and needs only to be transferred to the questionnaire. USGS experience indicates that about 300,000 web questionnaires will be returned each year, though this response level fluctuates dramatically depending on the occurrence of earthquakes. Assuming 300,000 respondents each spending 3 minutes on a questionnaire, the total hour burden is 15,000 hours.

We estimate the dollar value of the annual burden hours to be \$523,500. (see Table 2) based on the National Compensation Survey: Occupational Wages in the United States December 2016 published by the Bureau of Labor Standards Occupation and Wages, reference date March 2017. (https://www.bls.gov/news.release/archives/eci_01312017.pdf). Individual compensation is estimated at \$34.90 per hour including benefits.

Table 2 was created using information from Bureau of Labor Statistics USDL-16-1808, Employer Cost for Employee Compensation, published March 17, 2017. BLS reported employee compensation averaged \$34.90 per hour. These values include benefits and overtime.

Table 2: Responder Burden

| Participant / Activity | Number of Responses | Minutes per response | Burden Hours | Burden Value |
|---------------------------|---------------------|----------------------|--------------|--------------|
| Public reads instructions | 300,000 | 0.2 | 1,000 | \$34,900. |
| Public completes survey | 300,000 | 2.8 | 14,000 | \$488,600. |
| Total | 300,000 | | 15,000 | \$523,500. |

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.

There is no non-hour cost burden to the respondents under this collection.

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.

The total annual cost to the Federal Government is \$94,521. This includes salary and benefits for

one federal employee to process the responses. We used the Office of Personnel Management Salary Table 2017-RUS (https://www.opm.gov/policy-data-oversight/pay-leave/salaries-wages/salary-tables/pdf/2017/DEN_h.pdf) to determine the hourly rate (Table 2). We multiplied the hourly rate by 1.6 to account for benefits (as implied by the BLS news release USDL-16-1150).

Table 3: Federal Labor Table

| Fed Govt cost | | | | | |
|----------------------|-------------------|--------------------|------------------------|-----------------------------|--------------------------|
| Position | Grade/Step | Hourly Rate | Annu Hrs by Fed | Fully Loaded Hr Rate | Total Labor Value |
| Geophysicist | ST | \$84. | 160 | \$134. | \$21,440. |
| Geophysicist | 15/5 | \$70.18 | 160 | \$112. | \$17,920. |
| IT Specialist | 13/1 | \$44.55 | 40 | \$71.28 | \$2,851. |
| | | | | | |
| Contractor | N/A | \$53.24 | 960 | \$53.24 | \$51,110. |

Table 4: Other Federal Government Expenses

| | |
|-------------------------------|--------|
| Update of Zip Code boundaries | \$800 |
| Cost of geocoding responses | \$400 |
| Total for Other Expenses | \$1200 |

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

The estimate of the average amount of time to complete the questionnaire decreased due to the following three factors: (1) improvements in the layout and presentation of the form. (Responsive design now enables the form to render nicely on any size device, from desktop to mobile phone.), (2) historical review, and (3) outreach conducted with respondents.

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.

This collection has been a part of the USGS network for more than 75 years. There are no plans to discontinue this ongoing information collection. The results are published in USGS earthquake-related publications are also displayed on the USGS earthquake information Web Site. It is not published for statistical use.

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.

This collection has been a part of the USGS network for more than 75 years. There are no plans to discontinue this ongoing information collection. The results are published in USGS earthquake-related publications are also displayed on the USGS earthquake information Web Site. It is not published for statistical use.

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

There are no exceptions to the certification statement.