

¹Supporting Statement A

Markup Application

OMB Control Number 1028-New

Terms of Clearance: None

General Instructions

A completed Supporting Statement A must accompany each request for approval of a collection of information. The Supporting Statement must be prepared in the format described below, and must contain the information specified below. If an item is not applicable, provide a brief explanation. When the question “Does this ICR contain surveys, censuses, or employ statistical methods?” is checked "Yes," then a Supporting Statement B must be completed. OMB reserves the right to require the submission of additional information with respect to any request for approval.

Specific Instructions

Justification

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

The mission of the USGS National Geospatial Program (NGP) is to organize, maintain, publish, and disseminate the geospatial data of the Nation’s topography, natural landscape, and manmade environment through *The National Map*. NGP geospatial products and services support decision making and the operational activities of its customers. NGP’s role is also to increase the efficiency of the Nation's geospatial community by improving communications about geospatial data, products, services, projects, needs, standards, and best practices.

NGP is the A-16 National Geospatial Data Asset Co-lead for the Water-Inland Theme, including the National Hydrography Dataset and Watershed Boundary Dataset. Circular A-16 provides direction for Federal agencies to “coordinate work in partnership with federal, state, tribal and local government agencies, academia and the private sector to efficiently and cost-effectively collect, integrate, maintain, disseminate, and preserve spatial data, building upon local data wherever possible.” Executive Order 12906¹ accompanies Circular A-16. Geospatial Data Act of 2018 (GDA)² puts all the previous Circular A-16 (revised 2002) into law.

¹ https://www.fgdc.gov/policyandplanning/executive_order

² <https://www.fgdc.gov/gda>

The USGS manages the National Hydrography Dataset (NHD), Watershed Boundary Dataset (WBD), and National Hydrography Dataset Plus High Resolution (NHDPlus HR). All three hydrography datasets are user-driven data, where states and local governments, through the NHD and WBD Stewardship Program, take an active role in directly editing and maintaining the data to support data accuracy. The local knowledge, editing skills, and availability of a steward have guided the data quality and completeness of local areas throughout the Nation.

In 2016 USGS completed the National Hydrography Requirements and Benefits Study to review and understand current and future user requirements and the associated benefits for improved hydrography data. Over 500 USGS hydrography data users from local, state, federal, and tribal governments, nonprofit organizations, academia, and the private sector participated in the study. Eighty-two percent of the agencies said that they would use web-based tools with a quick and easy way to identify errors and submit proposed changes to the national datasets. The study also suggested that open source and crowdsourced data editing will improve data quality.

The Markup Application provides several benefits to the USGS hydrography program and users:

- Participation in the Markup Application is easy. It takes a few minutes to login and create a markup. Easier access for all citizens leads to higher participation rates in hydrography stewardship.
- Volunteer-collected data is often of a higher quality since citizens may have better local knowledge for an area of interest, compared to USGS staff. Thus, volunteer participation improves overall quality of the national datasets.
- Volunteer participation in a web-based tool improves government efficiency and saves resources.

The use of the Markup Application will result in more complete national hydrography datasets with improved positional and attribute accuracy.

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.

“Markup Application” is the name of the USGS web application that allows citizen participation in volunteer map data collection activities for hydrography datasets. The Markup Application allows citizens to submit proposed changes and corrections, called markups, to the NHD, WBD, and NHDPlus HR by drawing newly proposed geographic features on the map or by filling out a form that explains a suggested change for a selected feature. All submitted markups, along with the user email contact, are saved in a database to be reviewed by NHD or WBD state stewards, or USGS staff, for validation. State stewards or

USGS staff may contact the data volunteer via the recorded email address if further clarification is needed for a proposed change. Validated markups go in a queue of edits to be incorporated into the NHD, WBD or NHDPlus HR. The edits are made by NHD or WBD state stewards, or USGS editors using established editing tools. No edits to the hydrography datasets take place within the Markup Application.

Once approved markups are incorporated into the national datasets. The data is then available publicly at no cost. The data are also used on the USGS US Topo products.

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.

As the National Hydrography Requirements and Benefits Study demonstrated, users of the National Hydrography Datasets requested web-based tools to support data maintenance. The combination of improved technologies and wide public access to the internet has allowed USGS to move forward with crowd-sourcing applications to maintain datasets efficiently with more citizen involvement.

In the past, the errors to the hydrography datasets have been reported through unstructured phone calls or emails initiated by users to the USGS and state stewards. The Markup Application takes advantage of modern technologies to provide an efficient, electronic option for collecting information from those that are closest to the data. The application uses existing *National Map* and ESRI Web Mapping Services to provide reference data that the users can view as background layers during their review of the hydrography datasets. When errors are identified, the user can create and submit a suggested change right in the application by drawing new geographic features or filling out new feature attributes; no further effort is necessary to report the found error.

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.

USGS maintains and updates hydrography data through stewardship agreements with state and federal agencies. The local knowledge, editing skills, and availability of an assigned steward have guided the data quality and completeness of local areas throughout the Nation. In the state of limited resources, many stewards have not had the capacity to collect suggestions for data improvements efficiently. All information exchange has been done manually in an unstructured way through emails or phone calls. In some cases, information has been lost or waited for years to be incorporated into the national datasets. The Markup application is the first electronic application that allows the public to suggest improvements

to the National Hydrography Datasets. All markups are stored in a single database and can be reviewed only by approved state stewards or the USGS. The Markup Application database provides a single national system of record for suggested changes to the National Hydrography Datasets. It allows for efficient information access and storage when state stewards or USGS are ready to perform the required edits.

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.

Not collecting this information would hamper the Federal Government's efforts to effectively map hydrography data for the Nation and would prevent citizens from efficiently and effectively participating in improving those data.

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;
 - * requiring respondents to prepare a written response to a collection of information in fewer than 30 days after receipt of it;
 - * requiring respondents to submit more than an original and two copies of any document;
 - * requiring respondents to retain records, other than health, medical, government contract, grant-in-aid, or tax records, for more than three years;
 - * 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;
 - * requiring the use of a statistical data classification that has not been reviewed and approved by OMB;
 - * 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.

There are no circumstances that require us to collect information in a manner inconsistent with OMB guidelines.

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.

On July 1, 2019, we published a 60-day Federal Register notice (84 FR 31337) announcing that we would submit this ICR to OMB for approval. In that notice we solicited public comments for 60 days, ending August 30, 2019. We did not receive any responses to our Federal Register Notice.

We consulted with the individuals listed in the table to obtain their views on the information above. The individuals were asked to follow a set of instructions to create a single markup in the Markup Application and to track how long it takes them to do so. They also were asked to provide any comments regarding the information collection’s burden and how it supports USGS mission. All individuals were able to complete one markup under 3 minutes with a comment that a more complicated scenario may take slightly longer. Their comments were supportive of the application’s purpose for maintaining national hydrography datasets. They concurred with description and estimates provided in this document. No changes were suggested.

Table 1: Burden Reviewers

| Individual’s Title | Agency |
|---|--------------------------------------|
| GIS Analyst, Idaho NHD/WBD Technical POC | Idaho Department of Water Resources |
| GIS Coordinator, National Hydrography Dataset Steward | Colorado Division of Water Resources |
| National Map Liaison | U.S. Geological Survey |

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

No payments or gifts are provided to the respondents.

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

No assurance of confidentiality is given to respondents.

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.

Contact information (e.g., email address) will be maintained for the purpose of follow-up contact to clarify responses. State stewards or USGS staff may contact the data volunteer via the recorded email address if further clarification is needed for a proposed change. Respondent email addresses will not appear in any of our reports without permission.

This collection includes a PIA for email addresses. Privacy Impact Assessment document is in progress for the Markup Application.

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 anticipate approximately 115 users will use the application each year and estimate that it takes 10 seconds to login.
 - We anticipate 115 users will review a lesson video, which takes 17 minutes and 44 seconds to complete.

- For markups, we expect to receive about 1821 responses per year with an average time of 3 minutes to complete one markup. The average estimated time is based on the trials of new users, experienced users, or staff.
- We estimate the dollar value of the annual burden hours to be \$4576 (based on the Employer Costs for Employee Compensation-June 2019 (USDLE-19-1002) published by the Bureau of Labor Statistics, US Department of Labor³).

Table 2: Estimated Dollar Value of Annual Burden Hours

| Description of Respondents | Number of annual Responses | Estimated Completion Time per Response (minutes) | Total Annual Burden Hours | Hourly Pay Rate (\$/hr est.) | Total Dollar Value of Annual Burden Hours* |
|-----------------------------------|-----------------------------------|---|----------------------------------|-------------------------------------|---|
| User login and lessons review | 115 | 18 minutes (10 seconds to sign in + 17.75 minutes to view the lesson video) | 35 | \$36.32 | \$1,271 |
| Markup creation | 1,821 | 3 minutes | 91 | \$36.32 | \$3,305 |
| Total | 1,936 | | 126 | | \$4,576 |

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.

³ https://www.bls.gov/news.release/archives/ecec_03192019.htm

- * 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.

We estimate that the annual non-hour burden cost will be zero.

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.

We estimate the total annual cost to the Federal Government is \$51,380, estimated using Salary Table 2019-GS, Incorporating the General Schedule Increase Effective January 2019 and Hourly Basic Rates by Grade and Step (no locality).

Table 3: Estimated Dollar Value of Annual Burden Hours for Federal Employees

| Federal Position | Grade / Step | Hourly Rate | Hourly Rate incl. Benefits (1.6 x hourly pay rate) | Estimated Time Spent by Federal Employees (annualized hours) | Estimated Federal Employee Salary/Benefit Annualized Costs |
|-------------------------|---------------------|--------------------|---|---|---|
| Project Lead | 12/4 | \$33.99 | \$54.38 | 627 | \$34,096 |
| Development Team Lead | 12/10 | \$40.17 | \$64.27 | 146 | \$9,383 |
| Markup Validator | 12/4 | \$33.99 | \$54.38 | 94 | \$5,112 |
| Markup Editor | 11/10 | \$33.52 | \$53.63 | 52 | \$2,789 |
| Total | | | | 919 | \$51,380 |

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

This is a new collection.

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.

Data from the collection will not be published as a reference.

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 for this request.

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.