

Supporting Statement A
National Cooperative Geologic Mapping Program
(EDMAP and STATEMAP)

OMB Control Number 1028-0088

Terms of Clearance: None

A. Justification

- 1. Explain the circumstances that make the collection of information necessary. Identify any legal or administrative requirements that necessitate the collection. Attach a copy of the appropriate section of each statute and regulation mandating or authorizing the collection of information.**

The 102nd Congress recognized that the U.S. Geological Survey (USGS) and the State Geological Surveys needed a coordinated program to prioritize the geologic mapping requirements of the Nation, and to increase production of these geologic maps. The National Geologic Mapping Act (Public Law 102-285) was signed into law in 1992 and created the National Cooperative Geologic Mapping Program (NCGMP). The Act has been reauthorized multiple times since then, most recently by the 116th Congress in 2019 (PL 116-9). The Act recognizes that geologic maps are the primary database for virtually all applied and basic earth-science investigations.

The objectives of the NCGMP are to:

1. Determine the Nation's geologic framework through the systematic development of geologic maps, such maps to be contributed to the National Geologic Map Database.
2. Develop complementary national databases (e.g., geophysical and paleontological databases) that provide value-added information to the National Geologic Map Database.
3. Apply cost-effective mapping techniques that assemble and disseminate geologic-map information, and that render such information of greater application and benefit to the public.
4. Develop public awareness of the role and application of geologic-map information to the resolution of national issues of land use management.

The primary objective of the EDMAP component of the NCGMP is to train the next generation of geologic mappers. To do this we provide funds for graduate and undergraduate students in academic research projects that involve geologic mapping as a major component. Through cooperative agreements, we hope to expand the research and educational capacity of academic programs that teach earth science students the techniques of geologic mapping and field data analysis. Another important goal is to increase the level of communication between the Nation's geologic surveys (both State Geological Surveys and the USGS) and geologic mappers in the academic community. We hope that this improved communication will have two results: 1) that the academic mapping community will learn more about the

societal needs that drive geologic mapping projects at the USGS and State Geologic Surveys, and 2) more geologic maps produced in academia will eventually be made available to the public.

Since 1996, more than \$10 million from the NCGMP have supported geologic mapping efforts of more than 1,335 students working at 171 universities in 44 states, the District of Columbia, and Puerto Rico. Funds for graduate projects are limited to \$25,000 with undergraduate project funds limited to \$15,000. These funds are used to cover field expenses and map production, but not faculty salaries. The college or university matches the EDMAP funding. The actual amount of Federal funds that are available each year to the EDMAP component is based on a formula determined by the National Geologic Mapping Act and its latest reauthorization.

State Geological Surveys apply for STATEMAP funds through an annual competitive grant process. Every Federal dollar awarded to a State Geological Survey is matched by a State dollar. The primary objective of the STATEMAP component of the NCGMP is to establish the geologic framework of areas that are vital to the welfare of individual States. Each State Geologist determines the State's mapping priorities in consultation with a State Mapping Advisory Committee. These priorities are based on State requirements for geologic map information in areas of multiple-issue need or compelling single-issue need and in areas where mapping is required to solve critical Earth science problems. Each STATEMAP project focuses on a specific area or issue. Although the individual projects last for only one year, they frequently build upon the results of previous years' mapping activities. Employees of the State Geological Surveys conduct the geologic mapping and frequently work closely with EDMAP students and their professors, as well as with USGS FEDMAP geologists who may be mapping within the State. Priorities are not dependent on past agreements with the USGS.

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 EDMAP and STATEMAP components of the NCGMP use Standard Forms: 424 (Application for Federal Assistance); 424A (Budget Information Non-Construction Programs); and 424B (Assurances Non-Construction Programs). Applicants submit proposals for funding in response to Notices of Funding Availability (NOFA) that the USGS publishes on Grants.gov. Applicants submit a proposal through Grants.gov. We collect the following information for each component:

- (1) The project narrative including the principal investigator's contact information, applicant organization, collaborating organizations, a short description of the project, the project scope, the technical approach, the skills and capabilities of the applicant, the commitment to the effort, and the organizational and managerial capacity.
- (2) Proposed budget breakdown that provides detailed information about how the funds will be utilized.
- (3) Letters of support and/or commitment that are used to demonstrate the project's viability.

The information above will be collected from the principal investigator and applicant for the grant. This segment of the collection ensures that sufficient and relevant information is available to evaluate and select proposals for funding. A panel of technical experts will review each proposal to assess how well the proposed project addresses the requirements and priorities identified in the program's authorizing legislation. The information about the institution and the principal investigator will be used to contact the

recipients and non-recipients of funds; and the USGS Office of Acquisitions and Grants will use the information to assist in the preparation of the award paperwork.

EDMAP Applicants:

U.S. accredited university Geoscience or related Departments are eligible for EDMAP funds. University professors must write and submit the proposals. EDMAP cooperative grants are intended to fund students doing geologic mapping in the field. While it is proper for the professors/advisors to ask for some logistical support so that they may be with their student(s) in the field for a credible amount of time, the bulk of the award is intended to support the student's mapping efforts. EDMAP cooperative grants do not support student tuition or faculty salaries. Qualified Junior and Senior undergraduate and graduate students are eligible applicants to the EDMAP Program. Undergraduates should have received basic mineralogy, petrology and structural geology training prior to the time they will conduct fieldwork described in the proposal. Only one proposal will be accepted from an individual principal investigator (Professor or faculty advisor), although more than one proposal will be accepted from a single university if authored by different principal investigators.

STATEMAP Applicants:

Only State Geological Surveys are eligible to apply to the STATEMAP component of the National Cooperative Geologic Mapping Program pursuant to the National Geologic Mapping Act (Public Law 106-148). Since many State Geological Surveys are organized under a State university system, such universities may submit a proposal on behalf of the State Geological Survey. State Geological Surveys must have a State Mapping Advisory Committee (or equivalent) that meets annually to qualify for funding.

- 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].**

All application instructions and forms are available on the Internet for completion and printing of forms by the public. Applicants must submit proposals electronically through Grants.gov.

- 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.**

Due to the unique nature of this program and authorizing legislation, no other Federal agency collects this information. No duplication will occur.

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

We have made efforts to keep the amount of information requested to a minimum for all applicants. The information has to be sufficient to fulfill the requirements of the authorizing statutes, as well as sufficient to make a competitive funding decision. We do not believe the amount of information requested will have a significant impact on small entities, as they will provide the minimum amount of information needed to compete for financial assistance under these programs.

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.

The National Geologic Mapping Act, and subsequent reauthorizations, requires that proposals be collected each year. Failure to collect this information would cause the USGS to be in violation of the Act.

7. Explain any special circumstances that would cause an information collection to be conducted in a manner: (i) requiring respondents to report more often than quarterly, (ii) requiring respondents prepare written responses in fewer than 30 days after receipt, (iii) requiring respondents to submit more than an original and two copies of any document, (iv) retain records for more than 3 years; (v) 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; (vi) the use of a statistical data classification that has not been reviewed and approved by OMB; (vii) that includes a pledge of confidentiality not supported by authority established in statute or regulation; requiring respondents to submit proprietary trade secrets or other confidential information.

There are no circumstances that require the information be collected 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. [Please list the names, titles, addresses, and phone numbers of persons contacted.]

Consultation with representatives of those from whom information is to be obtained or those who must compile records should occur at least once every 3 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 August 11th, 2021, the USGS published a notice in the *Federal Register* soliciting comments on the STATEMAP and EDMAP components at 86 FR 44036. The comment period closed and the USGS did not receive any comments. Therefore, we have not changed the collection in any way.

In addition to our Federal Register notice, the program has solicited comments from three reviewers to obtain their views on the clarity of announcement, the annual hour burden for the application materials. The responses revealed that both program announcements contain the appropriate statutory authority for the program. The program priorities, objectives, recipient matching requirements, terms and conditions, and OMB provisions are clearly defined in the announcements. The individuals contacted are listed in Table 1 below. We incorporated their suggestions, edits, and comments in the final announcement. The respondents also agreed with our estimated burden time for the application of 36 hours (for both

components). This estimate reflects the time it takes each applicant to prepare the narrative and provide the additional information needed to complete the application. An additional 20 hours is required for each cooperative agreement recipient to complete and submit a final technical report due upon completion of the project.

Table 1. Individuals Contacted

Contact #1	Contact #2	Contact #3
State Geologist Wyoming State Geological Survey PO Box 1347 Laramie, WY 82073	State Geologist Pennsylvania Geological Survey 3240 Schoolhouse Road Middletown, PA 17057	Director of Education and Outreach American Geosciences Institute 4220 King Street Alexandria, VA 22302

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

We do not provide any payments or gifts other than the remuneration of grantees.

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.

We do not require information of a sensitive nature.

12. Provide estimates of the hour burden of the collection of information.

Our estimates are based on our own knowledge plus the outreach described in item 8. For the EDMAP component, we expect to receive 50 applications, each taking approximately 36 hours to complete (totaling 1,800 burden hours). We anticipate awarding an average of 45 grants per year. The 45 award recipients are required to submit a final technical report and a geologic map. An additional 20 hours is estimated for each cooperative agreement recipient to complete and submit a final technical report due upon completion of the project. The total number of hours for collection of each grant recipient is 56 hours. We estimate that the total burden for this collection will be 2,700 hours.

For the STATEMAP component, we expect to receive 45 applications, each taking approximately 36 hours to complete (totaling 1620 burden hours). We anticipate awarding an average of 45 grants per year. Although every applicant receives funding (provided they are not delinquent on past awards), the amount funded is based on competitive scoring by a panel of experts. The award recipients are required to submit a final technical report and geologic map deliverables. An additional 20 hours is estimated for each cooperative agreement recipient to complete and submit a final technical report due upon completion of the project. The total number of hours for collection of each grant recipient is 56 hours. We estimate that the total burden for this collection will be 2520 hours.

The total estimated hour burden of the collection of information for EDMAP and STATEMAP cooperative agreement recipients is 5220 hours.

Table 2. Estimated annual hour burden of the collection of information

Activity	Number of Annual Responses	Estimated Completion Time per Applicant	Total Annual Burden Hours
EDMAP Application	50	36 hours	1800
EDMAP Technical Report	45	20 hours	900
STATEMAP Application	45	36 hours	1620
STATEMAP Technical Report	45	20 Hours	900
TOTAL	185		5220

- We estimate the dollar value of the annual burden hours to be \$279,740 (see Table 3). The STATEMAP and EDMAP values are based on the National Compensation Survey: Occupational Wages in the United States published by the Bureau of Labor Standards Occupation and Wages, Geoscientists, June 2021, [Employer Costs for Employee Compensation - June 2021 \(bls.gov\)](https://www.bls.gov/news.release/ocwage21.pdf). The particular value utilized, for both State Geologists (STATEMAP) and University Professors (EDMAP), was an average hourly wage of \$53.59. This average wage value also includes benefits.

Table 3. Estimated Dollar Value of Annual Burden Hours

Activity	Annual Number of Responses	Estimated Completion Time per Applicant	Total Annual Burden Hours	Dollar Value of Burden Hour Including Benefits	Total Dollar Value of Annual Burden Hours
EDMAP Application	50	36 Hours	1800	\$53.59	\$96,462
EDMAP Technical Report	45	20 Hours	900	\$53.59	\$48,231
STATEMAP Application	45	36 Hours	1620	\$53.59	\$86,816
STATEMAP Technical Report	45	20 Hours	900	\$53.59	\$48,231
TOTAL	185		5220		\$279,740

13. Provide an estimate of the total annual [non-hour] cost burden to respondents or record keepers resulting from the collection of information. (Do not include the cost of any hour burden shown in Items 12 and 14).

There is no non-hour cost burden to applicants under this collection. There is no fee for application, nor any fees associated with application requirements.

14. Provide estimates of annualized cost to the Federal government.

The total estimated cost to the Federal Government for processing and reviewing proposals as a result of this collection of information is \$278,770. This includes hourly wages and benefits. Table 4 below shows Federal staff and grade levels performing various tasks associated with this information collection. We used the Office of Personnel Management Salary Table 2021-GS (https://www.opm.gov/policy-data-oversight/pay-leave/salaries-wages/salary-tables/pdf/2021/GS_h.pdf) to determine the hourly wages. We multiplied the hourly wage by 1.6 to account for benefits.

EDMAP proposals will be reviewed by an 8-member panel and STATEMAP proposals will be reviewed by a 7-member panel. The EDMAP panel consists of 4 university professors, 2 State geologists chosen by the Association of American State Geologists and 2 USGS geologists. The STATEMAP panel consists of 4 State geologists and 3 USGS geologists. The USGS EDMAP and STATEMAP Associate Program Coordinator serves as the chair of both panels.

Table 4. Annual Cost to the Federal Government

Position	Grade/ Step	Hourly Rate	Hourly Rate incl. benefits (1.6 x hourly pay rate)	Estimated Time spent by Federal employees (hours)	Annual Cost
Full time Coordinator	14/4	49.50	79.20	1440	114,048
Full time Program Analyst	13/2	39.35	62.96	1140	71,774
Reviewer #1 EDMAP	14/4	49.50	79.20	125	9,900
Reviewer #2 EDMAP	12/7	38.43	61.49	125	7,686
Reviewer #1 STATEMAP	13/3	40.62	64.99	112	7,279
Reviewer #2 STATEMAP	13/6	44.42	71.07	112	7,960
Reviewer #3 STATEMAP	13/2	39.35	62.96	112	7,052
Grant Specialist	12/8	39.49	63.18	840	53,071
				TOTAL	278,770

15. Explain the reasons for any program changes or adjustments.

No program changes or adjustments to report.

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.

The USGS will not publish these information collections.

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.

We will display the OMB control number and expiration date.

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

There are no exceptions to the certification statement.