



UNITED STATES DEPARTMENT OF THE INTERIOR

U.S. GEOLOGICAL SURVEY

-- EDMAP --

**The Educational Component of the
National Cooperative Geologic Mapping Program**

Re-authorized in 2022 by the Infrastructure and Jobs Investment Act
(Public Law 117-58, Section 40202: “*National Cooperative Geologic Mapping Program*”)

PROGRAM ANNOUNCEMENT No. G24AS00077

For Fiscal Year 2024

ISSUE DATE: October 1, 2023

**CLOSING DATE & TIME:
January 12, 2024 at 3:00 PM ET**

**PLEASE READ THE ENTIRE ANNOUNCEMENT CAREFULLY AND NOTE ANY
CHANGES**

Paperwork Reduction Act Approval – OMB control number 1028-0088; Expiration Date 10/31/2024

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LIST OF ATTACHMENTS

Proposal Submission Forms and Instructions

- A. Mandatory EDMAP Proposal Cover Sheet
- B. Budget Sheets (Total Proposal and Individual Projects)
- C. Special Terms and Conditions; Program and Financial Contact Information
- D. State Geological Surveys - Contact Information
- E. USGS Project Leads - Contact Information
- F. Current (FY2023) EDMAP Projects
- G. Forms required during and at the end of the project period (form is online only, not attached to this document)

SF-425 – Federal Financial Report (due at the end of project period and submitted electronically through GrantSolutions). This form is no longer attached but can be downloaded from: <https://www.grants.gov/forms/post-award-reporting-forms.html>.

PROGRAM ANNOUNCEMENT CHANGES FOR FY2024

Given the extensive recent changes to the EDMAP Program Announcement, the NCGMP will be available to answer any questions you may have. Please direct any questions to EDMAP@usgs.gov.

Part I, A, and throughout: Minor editorial changes have been made throughout the entire Program Announcement.

Part I, A, and throughout: Opening and closing date of the Program Announcement have been updated to reflect FY2024 dates.

Part I, A, and throughout: Language has been added to the Program Announcement which discusses the U.S. Geological Survey's trust responsibility to Tribal Nations and requirements to follow federal guidance regarding federally-funded research on, over, or near Tribal lands.

Part I, D, Funding Request Limits, and throughout: Primary Investigators (PI) may now request up to \$45,000 for each graduate student primary mapper.

Part II, D, Proposal Evaluation: The Evaluation Criteria for EDMAP Proposals have been updated for FY2024. Please read this section carefully.

Part IV, E, Funding, and throughout: Emphasis has been placed on requirements for no cost extensions. As a reminder, no cost extensions cannot extend past a date 30 days in advance of the EDMAP Proposal Evaluation Panel meeting for the next funding cycle, or roughly January 15 of the next year. Additionally, no cost extensions should not exceed 90 days. In rare circumstances where a PI needs a no cost extension beyond January 15 of the next year, the PI may be subject to penalty for any subsequent EDMAP Proposal submission.

Part IV, F, Project Deliverables, and throughout: Please note the EDMAP Program Officer has changed for FY2024. Contact information has also been updated. All EDMAP correspondence should be routed to EDMAP@usgs.gov.

Attachment A, Mandatory EDMAP Proposal Cover Sheet: Now required on the Mandatory EDMAP Proposal Cover Sheet are Proposed Project Start Date, Proposed Project End Date,

Proposed Funding Request, Proposed Institution Match, and indication of whether or not the proposed study includes or is near Tribal lands.

Attachment D, Contact Information for State Geological Surveys: Information has been updated for FY2024.

Attachment E, Contact Information for USGS NCGMP Project Leads: Information has been updated for FY2024.

Attachment E, Current EDMAP Projects: Information has been updated for FY2023.

PART I. Public Law, Program Priorities, and Geologic Map Products

A. The National Geologic Mapping Act

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 re-authorized five times since then, most recently by the 117th Congress in 2022 (Infrastructure and Jobs Investment Act P.L. 117-58, Section 40202). The Act recognizes that geologic maps are the primary database for virtually all applied and basic earth-science investigations.

The objectives of the NCGMP as outlined in the Act are to:

1. Determine the geologic framework of the Nation through the systematic development of geologic maps; such maps will contribute to the National Geologic Map Database (NGMDB).
2. Develop complementary national databases (e.g., geophysical and palaeontologic databases) that provide value-added information to the NGMDB.
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.

In 2021, NCGMP went through a process of renewing its vision and mission by developing a new strategic plan (see <https://pubs.usgs.gov/of/2021/1013/ofr20211013.pdf>). The new strategic plan of the NCGMP is to create an integrated, two-dimensional (2D) and three-dimensional (3D) digital geologic map of the United States and its territories to address the changing needs of the Nation by the year 2030. The mission of the NCGMP is to characterize, interpret, and disseminate a national geologic framework model of Earth through geologic mapping and associated research; this research will support the responsible use of land, water, energy, and minerals and mitigate the impact of geologic hazards on society, thereby facilitating national security and economic growth through informed earth resource management.

The EDMAP Program continues to carry out the NCGMP mission and address Department of the Interior Secretarial priorities by training students in skills needed for geologic mapping. Geologic mapping training supported by EDMAP provides the foundational capacity to capture the geologic framework information necessary to manage the land and water resources of the Nation, adapt to changes in the environment, and secure the Nation. Additionally, as EDMAP projects may occur on or near Tribal lands, NCGMP directly supports the fulfillment of the federal trust responsibility to Tribal Nations, supporting Tribal sovereignty and science needs by integrating Tribal input on geologic mapping proposed by academic partners. In addition, EDMAP support helps to maintain strong academic geologic mapping programs, which in turn produce a healthier workforce at geological surveys throughout the Nation.

B. EDMAP Component of the NCGMP

The primary objective of the EDMAP component of the NCGMP is to train the next generation of geologic mappers. To do this, the NCGMP provides funds for undergraduate and graduate student research projects that involve all activities relevant to the creation of geologic maps (**defined broadly as all maps that characterize the solid Earth and/or its constituents**). Through these cooperative agreements, the NCGMP hopes to expand the research and educational capacity of national academic programs that teach Earth science students the broad range of techniques relevant to geologic mapping and the analysis of field, geophysical, borehole, and remote sensing data. As of 2023, EDMAP has funded more than 1,440 students from more than 173 universities.

To reflect the evolving skillsets required of geologic mappers, the onset of new technology in support of mapping, and new/emerging themes in geologic mapping, **the FY2024 EDMAP Program Announcement includes a set of funding opportunities represented as a separate category of Proposal, “Data Synthesis Projects.”** This additional category was first introduced in FY2022 and continues this year. The NCGMP encourages submission of novel EDMAP Data Synthesis Project proposals that involve both training in skills relevant to the data modeling and synthesis needs of state-of-the-art geologic mappers, and training in field methods. Examples of potential Data Synthesis Projects are provided later in this Program Announcement.

PLEASE NOTE: ALL EDMAP PROPOSALS – WHETHER FIELD-FOCUSED or DATA SYNTHESIS – MUST INCLUDE THE GENERATION OF A GEOLOGIC MAP (see definition above). Requirements to produce a Data Synthesis geologic map can be found in Part I, section E, “Geologic Map Products.”

To expand the range of institutions and individuals that can take part in EDMAP, amongst other reasons, **the NCGMP acknowledges that inter-institutional collaboration may be desirable to complete FY2024 EDMAP projects.** Parameters for such collaborative proposals are described in Part II, section B, “Eligibility.”

A list of funded FY2023 EDMAP projects can be found in Attachment F of this announcement.

For more information about the USGS NCGMP EDMAP program please visit: [EDMAP | U.S. Geological Survey \(usgs.gov\)](https://www.usgs.gov/programs/edmap).

C. EDMAP Proposals

Proposals are to be submitted for a 12-month continuous project effort. Each proposal should show a 1:1 Federal/Institution funding match. Matching funds may include: (1) direct financial match in dollars to cover project expenses; (2) faculty (PI or non-PI) salary or student salary; (3) volunteer services by professional and technical personnel, consultants, or other skilled or unskilled labor if the services are an integral and necessary part of the project; (4) purchased, rented, and/or donated property such as field supplies, laboratory supplies, or office supplies that are justified to support the project (the value of donated property must not exceed the fair market value of the property at the time of the donation); (5) field travel and field accommodations; and (6) sample preparation and sample analysis costs. Costs associated with travel to or registration for professional meetings may not be considered as matching funds. Also, Federal dollars or Federal donations may not be considered as matching funds.

Only one proposal will be accepted from an individual PI (Professor or faculty advisor), although more than one proposal can be accepted from a single institution if authored by different PIs. The PI is required to write and submit the proposal.

For FY2024, proposals must include a detailed cover sheet that outlines the features of the proposal, guidance criteria being addressed, deliverables, and mentored field experience (see “Mandatory EDMAP Proposal Cover Sheet” at the end of this Program Announcement).

1. Types of EDMAP Proposals

Each Proposed EDMAP Project must fall into one of two categories:

a. *Field-Focused Projects*

Field-Focused Projects are those that generate a geologic map, displaying specific geological strata or rock units, based on extensive mentored field mapping. The primary emphasis of Field-Focused Projects must be on student mapping in the field, as has been expected through previous EDMAP Program Announcements. In the case of a Field-Focused Project, a map showing the 2D geologic framework must be produced and delivered to the NCGMP.

b. *Data Synthesis Projects*

Data Synthesis Projects are those that incorporate emerging geologic mapping skills and field experiences to support the evolving need for broadly defined geologic mapping now and in the future. Such projects must generate a geologic map (defined broadly as any map that characterizes the solid Earth and/or its constituents) by using computational tools or other innovative technologies, such as machine learning, smartphone applications, modeling, remote sensing, drones, etc. (e.g., using machine learning to classify rock types based on remote sensing data).

Data Synthesis Projects could also collect new data, analyze preexisting data, or resolve anomalies in existing datasets so data can be geospatially merged (e.g., mapping critical minerals or hazardous wastes in soils in an urban environment to address specific sources of contamination in runoff), and ultimately produce a geologic map (as defined above). This map must address a scientific or mapping methods problem and must be based on Earth science data. Examples include a map of the physical characteristics or structure of an aquifer to help inform changing groundwater quality, a map generated using remotely sensed data, or map that predicts lithologies and/or structure across a region.

Given the needs of modern geologic mapping, such as digitizing existing paper maps and converting digital maps to the USGS Geologic Map Schema (GeMS) standard schema, the activities proposed under a Data Synthesis Project can take many forms; however, the goal must be training students in geologic mapping in order to qualify for EDMAP funding. These activities may include the development of targeted geographic information system (GIS) and/or modeling skills needed for 3-dimensional mapping, the development of digital applications to assist field mapping, the extraction and processing of data relevant to geologic mapping from third party datasets, and retroactively generating standards-compliant data from legacy mapping products. However, the major focus of a Data

Synthesis Project, and the way the deliverables will document student learning related to geologic mapping, must be clearly described in the proposal. All deliverables that document these outcomes must be identified on the “Mandatory EDMAP Proposal Cover Sheet.”

All EDMAP proposals must include a mentored field experience focusing on aspects of geologic mapping (for additional information, please contact the EDMAP Program Officer). However, the field experience may be different if proposing a Data Synthesis Project. For example, the mentored field experience could be a guided field trip along transects aimed at understanding regional geology across a province. A proposed project would be considered eligible for Data Synthesis Project funding so long as the **student learns skills that enable the creation of maps or spatially referenced models that are relevant to Earth science, and ultimately produces a geologic map**. The proposed mentored field experience for Data Synthesis Projects must be identified within the proposal and also on the “Mandatory EDMAP Proposal Cover Sheet.”

All proposals must inform and coordinate with the State Geological Survey in the state of the proposed study site. If a proposed study site does not have a State Geological Survey, then please inform and coordinate with a USGS Project Lead that is funded by the National Cooperative Geologic Mapping Program (to obtain contact information for State Geological Surveys, see Attachment D or visit: <http://www.stategeologists.org/>; to obtain contact information for NCGMP-funded USGS Project Leads, see Attachment E). A written letter of acknowledgement or support from the State Geologist of the proposed study site (or a USGS Project Lead if the study site does not have a State Geologist) must accompany all proposals (see proposal criteria Coordination below, p. 23). As part of this coordination and planning process, the method of eventual geologic map publication should be discussed very early in the planning process. However, receiving EDMAP funds does not constitute a guaranteed publication of any map.

D. Funding Request Limits

EDMAP allows funding requests of up to \$45,000 for each graduate student primary mapper/analyst and up to \$25,000 for each undergraduate primary mapper/analyst per year

A primary mapper/analyst is defined as the lead student on an individual project; this person is responsible for producing the first-authored geologic map required at the end of the project. Assistant geologic mappers/analysts are encouraged, but costs for assistants are included in the overall request per primary mapper/analyst (for example, for one undergraduate primary

mapper/analyst and two field assistants, the total request is still limited to \$25,000). A proposal may request funding for multiple primary mappers/analysts (for example, one undergraduate primary mapper and one graduate primary mapper for a total request not to exceed \$70,000), however, each primary mapper/analyst is responsible for a separate first-authored map, and two deliverable maps are required in this case. For any questions regarding request amount limits per student, please contact the EDMAP Program Officer.

E. Geologic Map Products

Statements below addressing the characteristics of geologic maps within EDMAP are generally applicable to all products, including those generated through Data Synthesis Projects.

The EDMAP definition of a 2D geologic map created by a Field-Focused Project is one supported by a robust material-properties-based geologic framework of geological features and strata that is regularly updated, well-coordinated, multi-resolution, seamless, and that can be interpreted into various customized and user-friendly derivative map products. At minimum, the geologic map should include: (1) a clear and legible base (include base map credit and map projection); (2) scale (fractional and bar) and contour interval; (3) north arrow and magnetic declination; (4) title, authorship, publisher (or the institution that carried out the mapping), and date; (5) index map showing mapping contributions by the student author(s) and by previous mappers; (6) field data or field data stations; (7) description of map units; (8) explanation of map symbols; and (9) unit symbols on map. All maps submitted under EDMAP also must show the bounding coordinates in degrees-minutes-seconds (DMS) notation or decimal degrees notation. A geologic map may also include correlation or sequence of map units, stratigraphic columns, cross sections, other down-hole or 3D data, derivative maps, and text, but these additions are not required. Geologic maps in digital form also may contain a variety of point data for specific sites, essentially comprising a 3D database.

The EDMAP definition of a geologic map in the case of a Data Synthesis Project is defined broadly as any map that characterizes the solid Earth and/or its constituents. At a minimum (if applicable), the geologic map should include: (1) a clear map projection; (2) scale (fractional and bar); (3) north arrow and magnetic declination; (4) title, authorship, publisher (or the institution that carried out the mapping), and date; (5) field data or field data stations, if field data were collected; (6) description of relevant discrete or continuous map units; (7) explanation of map symbols; and (8) unit symbols on map.

In the case of both Field-Focused and Data Synthesis Projects, deliverable geologic maps will consist of data acquired and/or originally analyzed during the award period and, if applicable, mapped at a scale deemed appropriate for the geologic problem being addressed. Students should learn techniques of mapping with emphasis on the development of new maps and/or new mapping methodologies. If applicable, PIs must plan mapping projects in coordination with other FEDMAP or STATEMAP mapping projects in the field area, as NCGMP will not fund two maps of the same area of equitable scale or of similar purpose. All EDMAP deliverable maps are required to be submitted as high quality digital Portable Document Format (PDF) files that address the minimum requirements for map components and notation as described above. Any GIS or desktop-publishing files that were developed during the preparation of the PDF should be included in the deliverable. Please coordinate with the NCGMP office if producing a deliverable that is not listed here (e.g., a Data Synthesis deliverable), so that a mechanism for delivery can be developed. At the end of an awarded Cooperative Agreement period of performance, the EDMAP deliverables must be delivered to the NCGMP Program Office and also delivered to the State Geologist for the study site (if there is a State Geologist for that study site).

As student maps and other products are a significant component of the NCGMP, all current projects as well as maps delivered under EDMAP will be posted to the USGS National Geologic Map Database (NGMDB) website (<http://ngmdb.usgs.gov/>), which currently provides access to more than 100,000 geoscience publications (for an example EDMAP deliverable, see https://ngmdb.usgs.gov/Prodesc/proddesc_109645.htm). Current ‘Mapping in Progress’ EDMAP projects can be found at <https://ngmdb.usgs.gov/mip/>. In addition to the generated products, the NCGMP will archive any source files (e.g., ArcGIS, Adobe Illustrator) for future use by other geologists, upon written request. If you do not want your student’s deliverable posted to the NGMDB website, then please indicate that to the NCGMP in your transmittal letter when you submit your deliverable. Unless otherwise indicated, your student’s deliverable will be uploaded to the website with a disclaimer watermark identifying it as an unpublished EDMAP deliverable. It is strongly recommended that you work with your partnering State Geological Survey toward publication of your student’s deliverable(s), as applicable.

To assist the student and PI in map preparation, various general and NCGMP-supported resources for cartography and database design are available at <https://ngmdb.usgs.gov/Info/standards/>. This site is the recommended starting point for preparation of EDMAP products. It is recommended that you follow the Federal Geographic Data Committee (FGDC) Cartographic Standard (https://ngmdb.usgs.gov/fgdc_gds/geolsymstd/download.php) and the GeMS standard (<https://doi.org/10.3133/tm11B10>). NCGMP has adopted GeMS as the standard to be used for

all NCGMP-funded map products produced by the USGS and State Geological Surveys. Additional resources on GeMS can be found at <https://ngmdb.usgs.gov/Info/standards/GeMS/>.

Geospatial Data Availability Requirements

All geospatial data collected for or produced through the use of the Department of the Interior financial assistance funds are required to meet all relevant standards established by the Federal Geospatial Data Committee (FGDC) as authorized by Geospatial Data Act of 2018, Pub. L. 115-254, Subtitle F – Geospatial Data, §§ 751-759C, codified at 43 U.S.C. §§ 2801– 2811. Interior requires fully compliant metadata on all Geographic Information Systems files developed for financial assistance projects. If a funded financial assistance project involves acquiring or collecting geospatial data, the recipient is required to search GeoPlatform.gov to determine that no existing Federal, State, local or private data meet the Government’s needs and are available at no cost before acquiring or collecting additional geospatial data.

2 CFR 1402.315 Availability of Data

(a) All data, methodology, factual inputs, models, analyses, technical information, reports, conclusions, valuation products or other scientific assessments in any medium or form, including textual, numerical, graphic, cartographic, narrative, or audiovisual, resulting from a financial assistance agreement is available for use by the Department of the Interior, including being available in a manner that is sufficient for independent verification.

(b) The Federal Government has the right to:

(1) Obtain, reproduce, publish, or otherwise use the data, methodology, factual inputs, models, analyses, technical information, reports, conclusions, or other scientific assessments, produced under a Federal award; and

(2) Authorize others to receive, reproduce, publish, or otherwise use such data, methodology, factual inputs, models, analyses, technical information, reports, conclusions, or other scientific assessments, for Federal purposes, including to allow for meaningful third-party evaluation.

All deliverables that include geospatial data products must include appropriate metadata conforming to FGDC standards. FGDC standards can be found on <https://www.fgdc.gov/standards>.

PART II. Timetables, Eligibility, Format Instructions, and Proposal Evaluation

A. Timetables

Program Announcement Date: October 01, 2023

Closing Date and Time for Proposal Submission: Friday, January 12, 2024 @ 3:00 p.m. (EST)

B. Eligibility - Who May Submit a Proposal

EDMAP is restricted to U.S. Universities with geoscience or related departments or programs (for more information on whether your institution is eligible to submit an EDMAP proposal, contact the EDMAP Program Officer). University professors (**including adjunct professors**) must write and submit the proposals; the supported student(s) must not write the proposal. EDMAP Cooperative Agreements are intended to fund graduate (Masters and Doctoral) students and/or upper level (junior and senior) undergraduate students. Graduate and undergraduate students must have received appropriate geoscience or related training prior to the time that they begin the proposed project.

EDMAP cooperative agreements do not support faculty/PI salaries, nor do they support student tuition. The bulk of the award is intended to support the student's proposed efforts (field work and/or synthesis work). No faculty salary is allowed, although the PI may ask for some logistical financial support (e.g., travel funds) to mentor the student(s) in the field for a credible amount of time. Most of the budget request should go toward support of the student. Any support investigations (drilling and analytical services) or other purchased assets should be limited to less than 20 percent of the overall project budget.

Proposals may involve collaborations between more than one institution. In this case, the proposal must describe how the collaboration enhances the ability of the collaborating institutions to meet eligibility requirements. A co-PI must be named for each institution, and all PIs and co-PIs (all of whom are considered "PIs" within this program announcement) share equally in the responsibility for the completion of the project. One PI must be named on the proposal as the point of contact for NCGMP communication, preferably the academic advisor of the funded student. Funding will be received by the University of the PI named as point of contact, with disbursements to other institutions made through inter-institutional agreements. NCGMP will not engage in inter-institutional agreements, nor participate in enacting their provisions.

PIs that have been previously funded under EDMAP must comply with the requirements specified in previous EDMAP awards and must be in good standing (i.e., no delinquent deliverables still pending on a previous award without a Program-approved extension) to apply for funding for FY2024. Failure to meet previous award requirements will be grounds for ineligibility.

1. Student Eligibility

Although EDMAP proposals are for 12 months of funding, a primary student may be supported by up to two EDMAP awards. Students may be funded for two consecutive fiscal years, or a student may be supported by an EDMAP award from two different institutions, degrees, or PIs. However, the student is only eligible for two years of funding cumulatively. The PI must indicate on the “Mandatory EDMAP Proposal Cover Sheet” if the student has been supported by any prior EDMAP funding.

C. Proposal Format Instructions

Proposals must be arranged according to the format and order provided below. Following this format ensures that every proposal contains all essential information and is evaluated equitably. All documents (except the SF-424 forms) must be combined and submitted as one PDF file.

All proposals must include the following documents:

1. Standard Form 424 (SF-424), Application for Federal Assistance (mandatory form provided in grants.gov). The person who electronically submits the SF-424 must have the authority to bind the University/Institution to the terms of the assistance award.
2. Standard Form 424A, Budget Information – Non-Construction Programs (mandatory form provided in grants.gov).
3. Standard Form 424B, Assurances - Non-Construction Programs (mandatory form provided in grants.gov).
4. Negotiated Rate Agreement – Most States and Universities have a rate agreement. These agreements are usually titled “State and Local Rate Agreement” or “Colleges and Universities Rate Agreement.” The document provides the rates approved for use on grants, contracts, and other agreements with the Federal Government. New regulations (2 CFR

200.414) went into effect in 2015 stating that a recipient must provide a federally approved negotiated rate agreement or their indirect costs cannot exceed 10%. The language states that the agency will comply with the recipients approved rate, however, this is exempt for individual program regulations that have restrictions regarding indirect costs. The program authority for EDMAP has a cap of 18%. If you request fringe benefits that are not referenced in your approved rate agreement or if you do not have a rate agreement to provide, then please include a reference on how your fringe benefit rate(s) are determined for your university/institution.

5. Support letter from study-site State Geologist (or USGS Project Lead if there is no State Geologist for the study site) – A letter of acknowledgement or support from the State Geologist (or head of the State Geological Survey geologic mapping program) in the state that you are proposing to conduct mapping is mandatory. If the study site does not have a State Geologist, a letter of support from an NCGMP-funded USGS Project Lead is sufficient. It is highly recommended that discussions occur with the State Geologist/State Survey or the USGS Project Lead prior to the request for a letter of support. Informing them of your proposed field mapping and/or research project is of benefit to everyone. If other organizations are supporting your proposed project, then additional letters of support are welcome. See Attachments D and E for State and USGS contacts. For questions related to coordination with USGS Project Leads and/or State Geologists, please contact the EDMAP Program Officer.

6. Mandatory EDMAP Proposal Cover Sheet – **Please be mindful of the formatting requirements and changes to the Cover Sheet in FY2024.**

7. Proposal Technical Section – This section of the proposal is limited to 10 single-spaced pages, no smaller than 11-point font size, and 1-inch margins. Remember that a graphic is worth a thousand words, and the Proposal Evaluation Panel has many proposals to read. The 10-page limit includes all text, figures, references, and personnel information (letter(s) of support, attachments, budget sheets, and data management plan are not included in the 10-page limit). The technical section of the proposal must include the following:

- a. **Abstract.** The abstract must be no more than 350 words and include: (1) a statement of purpose, objective, or hypothesis; (2) research methods to accomplish the goal; (3) expected scientific or societal impacts of your research; (4) expected conclusions or outcomes; and (5) a statement that identifies the state and quadrangle or areas that you will be mapping in or otherwise addressing through mapping-related activities. Please describe clearly and concisely what you propose to do in your project. Do not include personal information.

b. **Introduction.** The introduction should be a brief description of the problem and background. Reference should be made to any earlier geologic mapping, or geologic mapping going on nearby at present. If the PI has received prior EDMAP funding in recent years, please include a discussion of previous projects, results, impacts of previous results, and if/how this work relates to the work being proposed. Please be as specific as possible and include a bibliography of previous EDMAP products. Please state if this project is a significant part of a thesis. The introduction is a good place to discuss coordination with a State Geological Survey or USGS.

c. **Location and geologic setting.** The proposed study area must be located within the United States and (or) U.S. Territories. A clear, readable map (with scale) showing the location (with coordinates) of your project area should accompany the text. Please keep in mind that the Proposal Evaluation Panel may not be familiar with the geography of your proposed field area. If the footprint of your proposed work is on or near Tribal lands, provide details: (1) whether physical access to Tribal lands is required, (2) whether or not the proposed activity would include soil disturbance (e.g., sample collection) on or near Tribal Lands, and (3) details on pre-coordination, request for access, or other communication with Tribes on the proposed project (if applicable).

d. **Purpose and Justification.** This section should answer the following simple, but important questions: Why are you doing this project? What scientific questions are you addressing? What benefits will society receive from the mapping? If you have previously proposed similar research, then please convey how the current proposal is related to this other research and how the current proposal is different from this other research.

e. **Strategy for Performing the Project.** This section should explain how your student will achieve the scientific results presented in the previous section through geologic mapping or other activities related to geologic mapping. If multiple students are involved, please be specific about the roles and individual projects and deliverables of each student. A short discussion about the digital cartography and GIS component related to the project is also beneficial. If the objectives can only be accomplished with the support of drilling, or other analytical services such as geochronology or geochemistry, or through the purchase of third-party assets (e.g., datasets), then please describe these activities here. Keep in mind that most of the budget request should go toward support of the student, and that any support investigations (drilling and analytical services) or other purchased assets should be limited to less than 20 percent of the overall budget request.

f. **Mentoring strategy and timetable.** Provide a realistic mentoring approach and timetable for completing the mapping project. A table embedded in your proposal can be a clear and concise way of conveying this information. Explain how much time the PI/faculty advisor will spend directly engaged with the student(s) and what their specific role(s) will be. Clearly discuss how the PI/faculty advisor will mentor the student(s) before, during, and after the field experience. If the student mappers have experience in geologic mapping (for example, a second year EDMAP student), then explain why you may have a more flexible mentoring schedule versus working with a junior or senior undergraduate student who might have less experience with geologic mapping. If the PI plans to be closely engaged with the student(s) throughout the project (e.g., in the field with the student mapper for the entire duration of the mapping project), please explain how the student(s) will gain independent experience with the techniques being learned. If applicable, explain how the PI will mentor any field assistants, and explain exactly what the assistant(s) role(s) will be. State where there will be any student interaction with or mentorship from State Geological Survey staff or USGS scientists. The NCGMP program considers project review by USGS and State Geological Survey partners an important part of EDMAP Projects, and thus sharing your project plan with them is beneficial. Please include a discussion of field safety if appropriate. NCGMP strongly encourages geologic mapping projects to utilize a buddy system approach to promote safe field practices.

g. **Deliverables.** Please provide a list of all deliverables. If maps are produced by the project, they must be submitted (with accompanying technical reports) by quadrangle, portion of quadrangle, or study area (indicate bounding coordinates). Keep in mind that the primary student mapper will be the first author of the deliverables, whereas other students (e.g., mapping assistants) will be secondary authors or acknowledged on the deliverable. If two primary mappers are funded on a project, then two separate map deliverables and a breakdown of which map deliverable will be authored by which student are required. All EDMAP deliverables, when possible, are required to be delivered as high-quality digital PDF files. See Part IV, Section F for more information about Project Deliverables.

h. **Project Personnel.** Proposed personnel must include the name of the PI, other supervising professor(s), and student(s). Clearly list the primary student mapper(s)/analyst(s) and any students that will be assistants. A short biography of each person will assist the Proposal Evaluation Panel to judge both the qualifications of the professor(s) and the ability of the student(s) to complete the geologic mapping project. Full CV/resumes are not required if sufficient biographical information is provided.

The PI should include information about the student's prior geologic educational experience (e.g., field camp, analysis projects, or other mapping projects), and any course work that would help significantly in the project. The PI and other supervising professors should include teaching experience relevant to the proposed project.

For projects that include inter-institutional collaborations, please include the expected contribution and relevant background of each PI, co-PI, and all other faculty serving in a defined role. It is important that the proposal make it clear that the combined skills and knowledge of the faculty team warrant a collaborative approach to the project. Be sure to identify which faculty member is the point of contact for the NCGMP, and please note that the point of contact must be a faculty member at the lead institution (i.e., the institution submitting the proposal and receiving payments).

NOTE: As the timing of proposal submission comes soon after the beginning of the school year, NCGMP understands that it is sometimes difficult to identify the student(s) who will undertake some kinds of projects, especially in the case of new graduate students. Proposals submitted that do not identify the actual students who will do the project are allowed, however, the name, contact information, and biography/qualifications of ALL students involved in the project (e.g., primary mapper(s)/analyst(s) and assistants) must be submitted to the USGS before the Office of Acquisition and Grants formally issues the cooperative agreement. This scenario should give professors several extra months to identify students to undertake the project. It is preferred that most students will be identified in the original proposals (but identification of students is not part of the proposal review criteria). Finally, even if the name and background information of each student is not included in the proposal, the proposal must specify whether each student is an undergraduate, a Masters, or a Doctoral student, and must include the minimal educational requirements and qualifications for each student. Otherwise, the Proposal Evaluation Panel will not be able to determine if the students are qualified to do the described level of work.

i. **Other support.** If the student has pending requests for support to perform a similar project from other institutions, then these requests should be listed.

j. **Budget explanation and justification.** It is important that the Proposal Evaluation Panel understand your budget to determine if it is adequately justified for the proposed mapping project. The budget justification section should explain in detail the itemized budget in the included Budget Sheet (Attachment B).

8. USGS Data Management Plan

Proposals submitted to USGS must include a supplementary document of no more than two pages labeled "Data Management Plan" (DMP). This supplementary document should describe how the proposal will conform to USGS policy on the dissemination and sharing of research results and associated data. A valid DMP may include only the statement that no detailed plan is needed (e.g., "No data are expected to be produced from this project"), if the statement is accompanied by a clear justification. This supplementary document (DMP) may include:

- the types of data, samples, physical collections, software, curriculum materials, and other materials to be produced during the project;
- the standards to be used for data and metadata format and content (if existing standards are absent or deemed inadequate, then this situation should be documented along with any proposed solutions or remedies);
- policies for access and sharing to include provisions for appropriate protection of privacy, confidentiality, security, intellectual property, or other rights or requirements;
- provisions for re-use, re-distribution, and the production of derivatives; and plans for archiving data, samples, and other research products, and for preservation of free public access to them.

Additional guidance on data management plans is available from the USGS Data Management web site here: <https://www.usgs.gov/data-management/data-management-plans>

9. Budget Sheets (Attachment B). Only one budget sheet per proposal is required, but if, for logistical reasons, the budget request for one student is significantly different than that of another student, then it may be useful to submit separate, individual budget sheets. Please itemize budget sheets and include rates for salary and travel logistics. If there is a cost item that represents a large proportion of your proposal budget, then the Proposal Evaluation Panel will want to know details. Please include a description of the cost share (cash vs. in-kind). Examples of cost share (university/institution costs) include the Principal Investigator salary, student salary or assistantships, travel expenses, laboratory analysis, or other non-Federal support. If cost share includes support from another organization outside of the proposing institution, please include a letter from that organization as evidence.

PLEASE READ EACH CATEGORY DESCRIPTION BELOW AND PROVIDE THE DETAILED BREAKDOWN THAT IS REQUIRED FOR EACH. THIS EFFORT WILL

HELP AVOID POSSIBLE DELAYS IN PROCESSING A FUNDED PROPOSAL,
BECAUSE AN AWARD WILL NOT BE ISSUED UNTIL ALL REQUIRED
INFORMATION IS PROVIDED.

The budget should contain the following:

- a. Salaries. Include all students (list number of students, salary rate, and amount of time on project for each student). Federal EDMAP funds do not support Teaching Assistantships (TA). Research Assistantships (RA) are allowed but only for students working exclusively on the proposed project. No faculty salary is allowed (but faculty salary may be used as match). In collaborative proposals that involve more than one student, if the students are from different institutions, then it is permissible to use different salary levels, but must be justified in a manner that demonstrates that any differential remains equitable.
- b. Fringe Benefits. Propose rates/amounts of any fringe benefits. If rates are audit approved, then include a copy of the audit agreement and/or the name of the audit agency. In collaborative proposals that involve more than one student, if the students are from different institutions, then it is permissible to use different fringe benefit levels, but these different levels must be justified in a manner that demonstrates any differential remains equitable. Audit approval documentation should be provided for each institution.
- c. Field Expenses. Itemize the estimated travel costs (i.e., number of people, number of travel days, per diem rate, mileage rate, airfare or other transportation, and any other travel costs).
- d. Miscellaneous. Federal EDMAP funds are not allowed for the purchase or rental of capital equipment, such as GPS units, rock hammers, Brunton compasses, hand lenses, cameras, or other nonexpendable items. Matching funds may be used for this purpose, provided that the capital equipment is directly related and essential to the project, and that the cost is prorated for project use. Itemize supplies such as base maps, aerial photographs, petrographic thin sections, film, datasets, and other expendable field and office supplies. List any contractual services and associated costs. Use this section to itemize costs that are not identified elsewhere on the budget sheet. Provide an estimated breakdown to include number and cost for each item.
- e. Drilling and analytical expenses. Drilling and analytical laboratory (e.g., geochemistry, geochronology, geophysics) expenses are to be capped to less than 20

percent of the total proposal costs. Please note that Federal EDMAP funds are prohibited from being used to fund analytical work at any Federal facility (matching funds are allowed for such analytical work at a Federal facility).

f. Non-allowable Expenses

i. Tuition and course fees. Federal EDMAP funds are not intended to pay tuition or course fees, and use of tuition waivers as matching funds is not acceptable. Tuition remission is not an acceptable match.

ii. Teaching assistantships. Federal EDMAP funds are not intended for teaching assistantship salaries, nor can they be used as matching funds. EDMAP funds may be used to support student research assistantships if the student is working exclusively on the EDMAP project.

iii. Professional meetings. Federal EDMAP funds are not intended for travel to or registration for professional meetings, nor are they an acceptable Federal match.

iv. Software. Software licenses and maintenance contracts are non-allowable expenses (Federal or Institution match) if the proposed project is a Field-Focused Project. However, **software is an allowable expense if the proposed project is a Data Synthesis Project and the software purchase is justified and prorated.**

v. Overhead expenses. It is not permissible to use items or facilities (computers, computer facilities, plotters, rock lab, office space, etc.) as match that are already university/department/institution overhead expenses. These items should be covered by indirect costs.

g. Total Direct Charges. Total for items a – e. Total direct charges MUST have a 1:1 Federal/Proposing Institution match. Failure to do so will result in automatic ineligibility and your proposal will not be further evaluated. The match side may be higher, but it must meet the 1:1 match requirement. In collaborative proposals, partial match from each institution is allowed if the total match the 1:1 threshold.

h. Indirect Charges. Show proposed rate and amount. Proposals must include a copy of the Indirect Negotiated Cost Rate between the institution and the Federal Government. NOTE: The 2022 Reauthorization of the National

Geologic Mapping Act (Public Law 117-58, Section 40202) states that the USGS and recipients of EDMAP grants shall not use more than 15.25% of Federal funds to pay indirect, servicing, or program management charges (which is equivalent to 18% of total direct costs). In collaborative proposals, different rates and amounts are allowed based on the direct costs to be received by each institution. A copy of the Indirect Negotiated Cost Rate must be included for each institution claiming indirect charges.

- i. **Matching Funds.** Regardless of the Proposing Institution's federally negotiated indirect cost rate, a Proposing Institution must show a 1:1 match of the total direct costs and no more than 18% on the Federal indirect costs line. Up to 18% of a Proposing Institution's total direct costs may be used as a Proposing Institution match on the Proposing Institution indirect cost line. If a Proposing Institution chooses (or is required) to show a higher than 18% rate on the Proposing Institution's indirect cost line, then this rate can be listed under "uncollected indirect costs" on the University/proposing Institution side, and the result will be a higher Proposing Institution budget total than the Federal budget total - **however, any "uncollected indirect costs" cannot be claimed as additional University match.** If the Proposing Institution approved rate is less than 18%, the approved rate must be used. These stipulations also apply to subcontracts. If a sub-award is issued for a portion of a project, then the same rules apply to the 18% cap for indirect costs on the federal side. **In collaborative proposals, partial match from each institution is allowed so long as the total reaches the 1:1 threshold.**

NOTICE OF MATCH AMOUNT – Please note that in accordance with the program announcement, a 1:1 match is required. If the recipient chooses to provide an over match (i.e., exceeding the 1:1 match requirement), then it is at the recipient's discretion. However, *by doing so the recipient will be held to meet that match amount referenced in your application.* A modification will not be issued to reduce the match amount. **An increased match does not increase your chances of award.**

The following is a summary of what is required for the 1:1 match:

- (i) A 1:1 Federal/Proposing Institution match is required for "TOTAL DIRECT COSTS" (salaries, fringe benefits, field expenses, miscellaneous supplies)
- (ii) A 1:1 Federal/Proposing Institution match is required for "TOTALS" (Total Direct Costs + Indirect Costs)

Both “Totals” must meet the 1:1 match requirement. Failure to meet the matching requirement will result in automatic ineligibility and your proposal will not be evaluated.

Examples of allowable match include the following:

- (i) Salary: Faculty, student, Research Assistants (RAs), field assistants.
- (ii) In-kind support: For example, the time a co-advisor from outside the institution spends with the primary student or the contracting costs supporting the project. Information documenting amounts for in-kind support should be included (for example, letters of commitment for in-kind support).
- (iii) Field expenses, analysis costs, drilling costs, other expenses related to Data Synthesis Project proposals.

Please contact the EDMAP Program Officer for any questions regarding matching funds.

- j. Total. FOR FIELD-FOCUSED AND DATA SYNTHESIS PROJECTS, NOT TO EXCEED \$45,000 FOR EACH PRIMARY GRADUATE STUDENT AND \$25,000 FOR EACH PRIMARY UNDERGRADUATE STUDENT PER YEAR.
PLEASE NOTE THAT THE ABOVE COST CATEGORIES (Direct and Indirect Charges) MUST BE BROKEN DOWN AS DESCRIBED ABOVE.

D. Proposal Evaluation

EDMAP proposals will be reviewed by an eight-member panel in March. Four (4) members will be professors that were previously awarded an EDMAP grant. Two (2) members will be State Geologists chosen by the Association of American State Geologists. Two (2) members will be USGS geologists. The EDMAP Program Officer will serve as Chair and will choose the USGS and academic members. All members will serve a three year term. No panelist may review or take part in any discussion with other panel members prior to or during a panel meeting about a proposal that originates from her/his university/institution, or for which other potential conflicts of interest are recognized.

Evaluation Criteria. All proposals will be evaluated using the criteria outlined below. Successful proposals will be funded in full (in some rare cases, partial funding grants may be awarded). Each reviewer will complete a review for each proposal, and these reviews will

become part of the official proceedings of the Proposal Evaluation Panel meeting. Panel feedback will be provided to PIs in the decision letters.

COORDINATION (10 Points)

- Is there a Letter of Support from State Geologist of study site, or from appropriate USGS FEDMAP Project Lead if study site does not have a State Geological Survey?
- Is the degree of coordination with State Geological Survey and/or FEDMAP mapping goals strong?
- Are geologists from other organizations included?

JUSTIFICATION (25 points)

- Does the project address significant science questions?
- Does the project address problems of societal value?
- Is the primary goal of the project to produce a geologic map?
- Is the proposed project well justified and does it contribute to relevant DOI and USGS scientific goals?

TECHNICAL QUALITY (25 points)

- Is the proposal well written and concise?
- Has the primary student been identified, and is this student capable of accomplishing the work?
- Can the student accomplish the work in the time allowed?
- For surface mapping, is Lidar to be used in the mapping process; or for subsurface mapping projects are appropriate data sources to be used?
- Does the proposed work involve any of the following data, as appropriate for the study site: geochronology data, geochemistry data, well/core data, soil data?

MENTORSHIP (20 points)

- Is mapping strategy focused on student skills?
- Will faculty spend adequate time mentoring?
- Does proposal describe mentoring activities before, during, and after field work activities?
- Does the proposal describe the degree of communication between PI and student?
- Is there a mentorship plan for assistant mappers?

BUDGET (20 points)

- Is the budget proportional to effort required?
- Are costs reasonable relative to results?
- Are matching funds accounted for and appropriate?
- Are student salary and/or Research Assistantship (RA) funds reasonable?
- Is faculty support reasonable and modest?
- Is the budget well-itemized and justified?

PART III. Proposal Delivery and Submission Instructions

Applicants are held responsible for the proposal to be electronically submitted into GRANTS.GOV (www.grants.gov) by January 12, 2024 @ 3:00 p.m. (EST). This website includes step by step instructions for GRANTS.GOV. Please be aware that the electronic submission system is relatively complex for first-time users and involves several preliminary registration steps to be taken before the proposal can be submitted (go to: www.grants.gov and click on the “Register” link at the top of the page). **Be advised that it is virtually impossible to begin the process of electronic submission for the first time if you start just a few days before the proposal submission due date.** Please contact your Office of Sponsored Programs because they may already have completed the registration process and should work with you to submit the application.

Please allow sufficient time for the proposal to be submitted electronically and allow time for possible computer delays. It is strongly advised not to wait until the last minute for submission. A proposal received after the closing date and time will not be considered for award, and the applicant will be notified immediately.

All Federal grant programs are required to use GRANTS.GOV to advertise program announcements. Any form that is not available online may be submitted as an attachment at the end of the proposal through the online application process.

PART IV. General Provisions

A. General Provisions of the National Cooperative Geologic Mapping Program

By accepting Federal assistance, your organization agrees to abide by the provisions of the National Cooperative Geologic Mapping Program (NCGMP), namely the Infrastructure and Jobs Investment Act (Public Law 117-58, Section 40202).

By accepting Federal assistance, your organization agrees to abide by U.S. Government policy and regulation as it relates to Federally recognized Tribes. Additionally, by accepting Federal assistance, you are required to determine if and report when proposed activities will occur on or near Federally recognized Tribal land, and/or when a new data product is proposed that will cover any portion of Tribal lands.

B. Office of Management and Budget (OMB) Circulars

By accepting Federal assistance, your organization agrees to abide by the applicable OMB Circulars in the expenditure of Federal funds and performance under this program. Copies of these Circulars can be obtained from the Internet at:

<https://www.whitehouse.gov/omb/information-for-agencies/circulars/#financial>.

1. 2 CFR Part 200, Uniform Administrative Requirements, Cost Principles and Audit Requirements for Federal Awards, as implemented by the Department of the Interior in 2 CFR Part 1402 and 43 CFR Part 12.

C. Rights in Technical Data

The U.S. Government may publish, reproduce, and use all technical data developed because of this assistance award in any manner and for any purpose, without limitation, and may authorize others to do the same. The EDMAP Program Officer agrees to contact the authors of any EDMAP product for review and coordination in the release of technical data. Full credit for authorship will be given. Every effort to protect the scientific integrity of newly gathered data will be made by the EDMAP Program Officer.

D. Publication

1. Publication of any map produced under EDMAP is contingent upon final acceptance by the State Geological Surveys and the USGS and is not based on having received an award. Map content and design guidance is available at <https://ngmdb.usgs.gov/Info/standards/>. Maps with explanatory information submitted to journals, professional organizations, or commercial firms, for publication shall be accompanied by the following notation:

"This map and explanatory information are submitted for publication with the understanding that the United States Government is authorized to reproduce and distribute reprints for governmental use."

Regarding data collected on or over Tribal lands, related publications should be protected and sanitized as necessary to safeguard and prevent from release any data that a Tribe has identified as proprietary or culturally sensitive. Data acquired concerning federally recognized Tribal lands may not be published if a Tribe deems the data/findings as sensitive or protected, and objects in writing to its public release. All other project area data outside of sensitive, protected information Tribal land boundaries may be published. The USGS may use restricted

data internally and/or provide a copy of the restricted data to federal agencies for their internal use.

2. A copy of each map with all accompanying explanatory information shall be submitted to the EDMAP Project Officer simultaneously with its submission for publication. The cover letter accompanying the maps should state how a copy of these files could be obtained if needed by either the USGS or State Geological Survey. One reprint of each map shall be submitted to the EDMAP Project Officer immediately following publication. One reprint should also be sent to the appropriate State Geological Survey.

3. Program credit. All geologic maps or other deliverables resulting from any project carried out under this assistance award resulting wholly or in part from the cooperative agreement will bear the following credit statement in the map header, on the title page of an accompanying explanatory text, and in the acknowledgments that accompany the map or any resulting report:

“Support (or partial support) provided by the U.S. Geological Survey, National Cooperative Geologic Mapping Program.” [Include award number and year funded]

4. Disclaimer. All maps and explanatory text submitted for publication by professional societies or commercial firms shall carry the following notation:

"The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the U.S. Government."

E. Funding

1. The EDMAP program is designed to be carried out on a 1:1 Federal/Institution match. Recipients shall match each Federal dollar with a non-Federal dollar (both direct and grand total to include direct and indirect costs). The non-Federal share may be contribution of funds or services. Such services can include those related to the student research project or cash provided to contractors. The source(s) of the university/proposing institution contribution must be listed in the proposal. The matching requirement must be met annually. If other non-Federal funds are used as match, then a letter or item of evidence should be included with the proposal to support these funds.

2. USGS funds cannot be used for the purchase of equipment.

3. Funds for the FY2024 National Cooperative Geologic Mapping Program, and in turn EDMAP funds, will not be available until enactment of USGS appropriations. Student awards will be made in the form of cooperative agreements to the supervising faculty member and the institution. Within the total award, a maximum of 15 percent of total direct costs may be included for support of the supervising faculty member (including fringe, and travel/field support). The PI may apply for EDMAP funds for the same student two years in a row (a student is eligible for a total of two years of EDMAP funds); awards are only issued one year at a time, and a new proposal must be submitted for competition in the second year. Funding for the first year does not guarantee funding in the second year. It is anticipated that awards will be issued during the spring of 2024; therefore, you should plan project start dates between May 1, 2024 and September 15, 2024.

4. If a University has been awarded a cooperative agreement for several students, and one or more of those students is/are unable for any reason to fulfill their geologic mapping project, then those funds awarded to the student(s) must be forfeited and cannot be reallocated to the remaining students doing mapping at that institution.

5. Requests for no-cost extensions, not to exceed 90 days, shall be forwarded to the Grant Specialist/Contracting Officer for consideration not later than 30 days prior to the effective proposal end date. After discussion with EDMAP Program Officer, the Grant Specialist/Contracting Officer will make a final decision on a case-by-case basis and notify the PI in writing. Asking for a 90 day no-cost extension in no way jeopardizes the success of a future proposal. **However, if a PI asks for a no-cost extension, then the extension cannot extend past January 15th of the next calendar year.** In rare situations where an extension is needed beyond January 15 of the next year, the PI may be penalized in subsequent EDMAP Proposal Panel Reviews for violating no cost extension requirements.

SPECIAL NOTE: A cooperative agreement issued by the USGS Office of Acquisition and Grants, approved and released by the USGS Contracting Officer, obligates USGS funds. Notification of a successful proposal does not constitute authority to incur costs. However, pre-agreement costs may be considered and approved on a case-by-case basis. Approval must be requested and granted prior to incurring any expenses. Written approval must be given by the USGS Office of Acquisitions and Grants. Once the cooperative agreement for a successful proposal has been approved and released through GrantSolutions by the USGS Contracting Officer, the proposing institution may incur costs.

F. Project Deliverables

All deliverables (e.g., transmittal letter, technical report, geologic map) must be sent to the EDMAP Program Officer (edmap@usgs.gov) before the last day of the performance period. All geologic maps, other potential deliverables under Data Synthesis Projects, and accompanying technical reports must include all student author names (identify funded EDMAP students) and the statement of EDMAP Program Credit including the award number and year funded (Part IV, Section D).

All EDMAP deliverables are to be electronically delivered as high-quality digital PDF files. For Data Synthesis Project deliverables that may not be easily converted to a PDF, please describe the anticipated file formats in your project proposal. When the transmittal letter, technical deliverables, and accompanying technical report are submitted to the EDMAP Program Officer, a copy should be sent to the appropriate State Geological Survey and/or USGS Project Lead for their files. The Program will notify PIs about the delivery method closer to the project end date.

Point of Contact for all EDMAP related questions or inquiries:

EDMAP Program Officer
U.S. Geological Survey
Attn: Jenna Shelton
908 National Center
12201 Sunrise Valley Drive
Reston, Virginia 20192
Email: jlshelton@usgs.gov and/or EDMAP@usgs.gov

-- END OF PROGRAM ANNOUNCEMENT --

ATTACHMENT A
USE THE FOLLOWING FORMAT

Mandatory EDMAP Proposal Cover Sheet

(University/Proposing Institution, City & State)

(Collaborating Institution(s), City & State)

1. PROPOSED PROJECT TITLE: _____

2. PRINCIPAL INVESTIGATOR(s):

Name: _____

Address: _____

Phone: _____

E-mail: _____

Name: _____

Address: _____

Phone: _____

E-mail: _____

3. STUDENT NAME(s)/DEGREE PROGRAM/UNIVERSITY or COLLEGE:

4. AUTHORIZED UNIVERSITY REPRESENTATIVE

Name: _____

Address: _____

Phone: _____

E-mail: _____

5. LIST OF DELIVERABLE(S) AND EXPECTED FORMAT. PLEASE INCLUDE
BOUNDING COORDINATES (IN DMS) OF ANY PRODUCED MAP(S) HERE AS
WELL:

6. NAME OF CONTACT/COOPERATOR AT EITHER A STATE GEOLOGICAL SURVEY OR USGS:

7. HAS ANY STUDENT ON THIS PROPOSAL RECEIVED PREVIOUS EDMAP SUPPORT: YES / NO

8. WHICH PROJECT TYPE IS THE PROPOSED PROJECT?

Field-Focused Project: _____

Data Synthesis Project: _____

If proposing a Data Synthesis Project, please describe the mentored field experience and how it will teach the student(s) geologic mapping skills.

9. PLEASE DESCRIBE THE PURPOSE OF THE RESEARCH PROJECT:

10. PROPOSED PROJECT START DATE: MM/DD/YYYY

11. PROPOSED PROJECT END DATE: MM/DD/YYYY

12. PROPOSED FUNDING REQUEST: \$_____

13. PROPOSED INSTITUTION MATCH: \$_____

10. DOES THE STUDY AREA INCLUDE TRIBAL RESERVATION LANDS OR TRIBAL CEDED LANDS? : YES / NO / UNSURE

ATTACHMENT B
USE THE FOLLOWING FORMAT

University/Proposing Institution: _____

Proposal Short Title: _____

Proposed Total Budget

(Must not exceed \$45,000 per graduate and/or \$25,000 per undergraduate)

Budget Category	Amount Requested	Proposed University Amount
SALARIES:		
Student(s)	\$	\$
Faculty Supervisor	\$ N/A	\$
	\$ N/A	\$
(provide salary rate & time for each)	\$	\$
	\$	\$
Total Salaries:	\$	\$
FRINGE BENEFITS:		
Supported by negotiated rate agreement	\$	\$
check one:		
() yes () no		
	\$	\$
Total Fringes:	\$	\$
FIELD EXPENSES		
Per Diem	\$	\$
Vehicle cost	\$	\$
Mileage	\$	\$
(provide number & rate for each)	\$	\$
	\$	\$
Total Field Expenses	\$	\$
MISCELLANEOUS SUPPLIES		
Office and laboratory supplies (itemize)	\$	\$
Drilling/Analytical	\$	\$
Other	\$	\$
(breakdown the above costs)	\$	\$
Total Miscellaneous Supplies	\$	\$
Total Direct Cost:	\$	\$
Indirect Cost (__%)*	\$	\$
TOTALS		
<i>Uncollected Indirect Cost (if applicable)</i>	<i>N/A</i>	

*Not to exceed 18%

ATTACHMENT B
USE THE FOLLOWING FORMAT

University/Proposing Institution: _____

Proposal Short Title: _____

Proposed Individual Project Budget

(Must not exceed \$45,000 per graduate and/or \$25,000 per undergraduate)

Note: Must include totals of all requests for funded students from a University or College

Budget Category	Amount Requested	Proposed University Amount
SALARIES:		
Student(s)	\$	\$
Faculty Supervisor	\$ N/A	\$
	\$ N/A	\$
(provide salary rate & time for each)	\$	\$
	\$	\$
Total Salaries:	\$	\$
FRINGE BENEFITS:		
Supported by negotiated rate agreement	\$	\$
check one:		
() yes () no		
	\$	\$
Total Fringes:	\$	\$
FIELD EXPENSES		
Per Diem	\$	\$
Vehicle cost	\$	\$
Mileage	\$	\$
(provide number & rate for each)	\$	\$
	\$	\$
Total Field Expenses	\$	\$
MISCELLANEOUS SUPPLIES		
Office and laboratory supplies (itemize)	\$	\$
Drilling/Analytical	\$	\$
Other	\$	\$
(breakdown the above costs)	\$	\$
Total Miscellaneous Supplies	\$	\$
Total Direct Cost:	\$	\$
Indirect Cost (__%)*	\$	\$
TOTALS		
TOTALS	\$	\$
<i>Uncollected Indirect Cost (if applicable)</i>	N/A	

* Not to exceed 18%

ATTACHMENT C

SPECIAL TERMS AND CONDITIONS

SECTION A – ASSISTANCE ADMINISTRATION DATA AND DELIVERABLES

A.1. Cooperative Agreement Administration

This cooperative agreement will be administered by:

U.S. Geological Survey
Office of Acquisition and Grants
Amber Brazil, Grants Specialist
12201 Sunrise Valley Drive, MS 205
Reston, VA 20192
Email: abrazil@usgs.gov
Telephone: (703) 648-7477

Written communication shall refer to the Cooperative Agreement number and shall be mailed to the address above or email to abrazil@usgs.gov.

A.2. Consideration

(a) The recipient's proposal as identified on Page 1, Block 10 is incorporated by reference. The total estimated cost of the USGS share for the performance of this cooperative agreement is the total amount indicated in Block 13. Costs hereunder shall in no event exceed that amount without prior written approval of the Contracting Officer (CO).

(b) Prior approval of the CO is not required for transfer of funds between direct cost categories when the cumulative amount of the transfers during the performance period does not exceed ten (10) percent of the total USGS cash award. Prior written approval is required from the CO for transfers in excess of the ten (10) percent limitation.

A.3. Payment

Payments under financial assistance awards must be made using the Department of the Treasury Automated Standard Application for Payments (ASAP) system (www.asap.gov).

- a. The Recipient agrees that it has established or will establish an account with ASAP. USGS will initiate enrollment in ASAP. If the Recipient does not currently have an ASAP account, then he or she must designate an individual (name, title, address, phone and e-mail) who will serve as the Point of Contact (POC).
- b. With the award of each grant/cooperative agreement, a sub-account will be set up from which the Recipient can draw down funds. After recipient's complete enrollment in ASAP and link their banking information to the USGS ALC (14080001), it may take up to 10 days for sub-accounts to be activated and for funds to be authorized for drawdown in ASAP.
- c. Inquiries regarding payment should be directed to ASAP at (855) 868-0151.

A.4. Definitions

A. Cooperative Agreement

A cooperative agreement is the legal instrument reflecting a relation between the Federal Government and a state or local government or another recipient whenever:

- (1) the principal purpose of the relation is the transfer of money, property, services, or anything of value to the state or local government or other recipient to accomplish a public purpose of support, or stimulation authorized by Federal statute, rather than acquisition, by purchase, lease, or barter, of property or services for the direct benefit or use of the Federal Government; and
- (2) substantial involvement is anticipated between the executive agency, acting for the Federal Government, and state or local government or other recipient during performance of the activity.

B. Grantee/Cooperator

Grantee or cooperator means the nonprofit corporation or other legal entity to which a grant or cooperative agreement is awarded, and which is accountable to the Federal Government for the use of the funds provided. The grantee or cooperator is the entire legal entity even if only a particular component of the entity is designated in the award document. For example, a grant or cooperative agreement award document may name as the grantee one school or campus of a university. In this case, the granting agency usually intends, or requires, that the named component assume primary or sole responsibility for administering the grant-assisted project or program. Nevertheless, the naming of a component of a legal entity as the grantee or

cooperator in a grant or cooperative agreement award document shall not be construed as relieving the whole legal entity from accountability to the Federal Government for the use of the funds provided.

The term “grantee” or “cooperator” does not include secondary recipients such as sub grantees, contractors, etc., who may receive funds from a grantee pursuant to a grant.

C. Recipient

Recipient means grantee or cooperator.

D. Principal Investigator

The Principal Investigator is the individual designated by the Recipient (and approved by the USGS) who is responsible for the technical direction of the research project. The Principal Investigator cannot be changed or become substantially less involved than was indicated in the Recipient's proposal, without the prior written approval of the Contracting Officer.

E. EDMAP Program Officer

a. The EDMAP Program Officer will work closely with the Principal Investigator to ensure that all technical requirements are being met. The EDMAP Program Officer's responsibilities include, but are not limited to, providing technical advice on the accomplishment of the proposal objectives; reviewing the technical content of reports and the other information delivered to the USGS; determining the adequacy of technical reports; and conducting site visits, in coordination with the Regional Coordinator, Deputy Chief for External Research, and the Contracting Officer, as frequently as practicable.

b. The EDMAP Program Officer is Jenna Shelton, U.S. Geological Survey, 908 National Center, 12201 Sunrise Valley Drive, Reston, VA 20192 (jshelton@usgs.gov; EDMAP@usgs.gov). The EDMAP Program Officer does not have the authority to issue any technical direction which constitutes an assignment of additional work outside the scope of the award; in any manner cause a change in the total cost or the time required for performance of the award; or change any of the terms, conditions, or general provisions of the award.

F. Contracting Officer (CO)

Contracting Officers are individuals who have been delegated in writing by the USGS Office of Acquisition and Grants as the sole authority designated to obligate Federal funds

and create terms and conditions of awards. They are the only individuals who have authority to negotiate, enter, and administer awards resulting for this program. Contracting Officers have responsibility to ensure the effective use of Federal funds.

Functions of the Contracting Officer/Grant Specialist include but are not limited to:

- (1) Issuing the grant/cooperative agreement program announcement in coordination with the program manager.
- (2) Receiving grant/cooperative agreement proposals and related documents in response to a program announcement. The Grant Specialist as receiving official shall mark all proposals with a control number.
- (3) Approving the program manager's Technical Evaluation Plan, which describes in detail the evaluation process for a competitive grant/cooperative agreement program. The Contracting Officer/Grant Specialist shall ensure the openness and fairness of the evaluation and selection process.
- (4) Serving in an advisory capacity at peer review panel meetings. They shall interpret grant/cooperative agreement management policies to panel members.
- (5) Negotiating, as necessary, the final grant/cooperative agreement budget.
- (6) Issuing grant/cooperative agreement awards and revisions to awards.
- (7) Receiving all requests for changes to an award. The Contracting Officer/Grant Specialist shall serve as the mandatory control point for all official communications with the grantee which may result in changing the amount of the grant/cooperative agreement, the grant/cooperative agreement budget, or any other terms and conditions of the award.
- (8) Receiving financial reports required by the terms and conditions of the award.
- (9) Closing out grant/cooperative agreement awards when all applicable award requirements have been complied with.

A.5. Reporting Requirements

- A. Required reports/documents. The Recipient shall submit the following reports/documents:

Report/Document	# of Copies	Submit To	Due Date
1. Transmittal Letter, Maps, plus accompanying Technical Report	1 Original	Program Officer (see page 2 of Award Document)	On or before the last day of the 12-month project period.
2. Transmittal Letter	1 Copy	Grant Specialist, see Section A.1 of Terms & Conditions	On or before the last day of the 12-month project period.
3. SF 425- Federal Financial Report	SEE SECTION A.5(B) BELOW	Electronically thru GrantSolutions or via email to Grant Specialist (A.1)	SEE SECTION A.5(B) BELOW
4. *Publications	1 Copy	Program Officer (same as above)	Immediately following publication.

* Publication means any book, report, photograph, map, chart, or recording published or disseminated to the scientific community.

B. CASH MANAGEMENT AND FINANCIAL REPORTING REQUIREMENTS

1. Annual Financial Reports

a) The Recipient will submit an annual SF 425, Federal Financial Report, for each individual USGS award. The SF 425 is available at <https://www.grants.gov/web/grants/forms/post-award-reporting-forms.html>. The SF 425 will be due in accordance with the following schedule. The USGS acknowledges that this annual reporting schedule may not always correspond with a specific budget period.

Award Performance Start Date	Annual Interim Report End Date (year following start date)	Annual Interim Report Due Date (90 days after report end date)
January 1 - March 31	March 31	June 30
April 1 - June 30	June 30	September 30

July 1 - September 30	September 30	December 31
October 1 – December 31	December 31	March 31

b) The SF 425 must be submitted electronically through the GrantSolutions Message Center or, if GrantSolutions is not available, by e-mail to SF425@usgs.gov with a cc to the Contracting Officer. Recipient must include the USGS award number in the subject line of all correspondence. If, after 90 days, Recipient has not submitted a report, then the Recipient's account in ASAP will be placed in a manual review status until the report is submitted.

2. Final Financial Report

- a) The Recipient will liquidate all obligations incurred under the award and submit a final SF 425, Federal Financial Report in accordance with B.1.b. no later than 90 calendar days after the Agreement completion date.
- b) Recipient will promptly return any unexpended federal cash advances or will complete a final draw from ASAP to obtain any remaining amounts due. Once 120 days has passed since the Agreement completion date, the USGS shall unilaterally deobligate federal funds as reflected in the Final SF 425.
- c) Subsequent revision to the final SF 425 will be considered only as follows:

- i. When the revision results in a balance due to the Government, the Recipient must submit a revised final SF 425, Federal Financial Report, and refund the excess payment whenever the overcharge is discovered, no matter how long the lapse of time since the original due date of the report.

- ii. When the revision represents additional reimbursable costs claimed by the Recipient, a revised final SF 425 may be submitted to the USGS Contracting Officer with an explanation. If approved, the USGS will either request and pay a final invoice or reestablish the ASAP subaccount to permit the Recipient to make a revised final draw. Any revised final report representing additional reimbursable amounts must be submitted no later than 1 year from the due date of the original report, i.e., 15 months following the Agreement completion date. The USGS will not accept any revised SF 425 covering additional expenditures after that date and will return any late request for additional payment to the Recipient.

C. Publication of the results of any project carried out under this assistance award is authorized in professional journals, trade magazines, or USGS publications. The following notation shall accompany manuscripts submitted to journals or professional publications:

"This manuscript is submitted for publication with the understanding that the United States Government is authorized to reproduce and distribute reprints for governmental use."

"Supported by the U.S. Geological Survey, National Cooperative Geologic Mapping Program, under assistance Award No. [Insert the award number from Block 1 of page one]."

- (i) One copy of each article planned for publication shall be submitted to the EDMAP Program Officer immediately following publication.
- (ii) Disclaimer. All manuscripts submitted for publication in magazines, journals or trade papers shall carry the following notation:

"The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the U.S. Government."

(iii) USGS Logo

Use of the USGS logo (also known as "visual identity" or "identifier") constitutes the recipient's agreement to and acceptance of the following terms:

- The USGS identifier is trademarked and not in the public domain.
- Use of the trademarked USGS identifier is authorized by USGS for use only by recipients of USGS funding.
- Use is authorized on information products that result from research funded by the financial assistance award.
- Use the USGS identifier for any other purpose without written permission from USGS is prohibited; doing so constitutes trademark infringement.
- Recipient will adhere to the design requirements, which are as follows:
 - The USGS identifier must appear in black, white, or green only.
 - The USGS identifier cannot be modified in any way except for proportional sizing.
 - The USGS identifier should appear at the same size as logos of other agencies, if any.
 - If used on a digital product, then the USGS identifier should link to www.usgs.gov

D. Report preparation instructions. The Recipient shall prepare the reports/documents in accordance with the following instructions:

(1) Technical Report. This report is due at the end of the award 12-month performance period. The technical report should be formatted as single-spaced on 8 ½ inch by 11-inch pages and include the following:

(a) A cover page of the technical report shall contain the award number, Principal Investigator's name, title of the Recipient's application, type of Project funded (Data Synthesis versus Field Focused), and the students that were funded by the cooperative agreement award.

(b) The technical report shall contain an abstract that summarizes the observations and conclusions of the report.

(c) The main body of the technical report shall document and summarize the results of the recipient's work over the 12-month project period. The report shall include an adequate but brief description of activities and overall progress which summarizes the results of the entire award. The final report may include tables, graphs, diagrams, sketches, etc., as required to explain the results achieved under the award. The report may also include recommendations and conclusions based upon both the experience and the results obtained.

(d) The report shall also contain a bibliography of all publications resulting from the work performed during the 12-month period. Copies of the publications are required if the Recipient has not previously submitted them to the EDMAP Program Officer.

(e) Submit this report via email directly to the EDMAP Project Officer (edmap@usgs.gov). A copy of the cover letter should be emailed to the Grant Specialist (abrazil@usgs.gov).

E. Maps. One copy of each map with all accompanying explanatory information shall be electronically submitted to the EDMAP Program Officer by the end of the award end date and, subsequently, the updated map when published. Instructions on electronic delivery will be provided to the PI prior to the project end date. Publication of maps shall follow guidelines in Part IV, Section D of this Program Announcement.

(1) The Publication of the results of any project carried out under this assistance award is authorized in map or publication "series" of State Geological Surveys. Emphasis is on the prompt release of the geologic map and explanatory information, so that publication includes release of maps or segments of maps with explanatory information in open-file format. Publication includes conventional format in paper copy, and electronic/digital format. The following notation shall accompany maps with explanatory information submitted to journals, professional organizations, or commercial firms for publication:

"This map and explanatory information are submitted for publication with the understanding that the United States Government is authorized to reproduce and distribute reprints for governmental use."

All publications that contain work performed during the project period shall include the following statements:

"Research supported by the U.S. Geological Survey, National Cooperative Geologic Mapping Program, under USGS award number [Insert the award number]. The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the U. S. Government."

(2) A transmittal letter shall also accompany the maps that are forwarded to the EDMAP Program Officer. The letter should identify the award number, Recipient's name, Principal Investigator's name, title of the Recipient's application, and a description of the map being submitted. A copy of the transmittal letter shall be sent to the Grant Specialist identified in Section A.1.

F. Adherence to reporting requirements. A Recipient's failure to submit the required reports/documents, in a timely manner, may result in withholding of payment, termination of the award, or delay or non-issuance of new awards.

A.6. Adherence to Original Research Objectives and Budget Estimates

A. Any commitments or expenditures incurred by the Recipient in excess of the funds provided by this award shall be the responsibility of the Recipient. Expenditures incurred prior to the effective date of this award cannot be charged against award funds unless provided for in this award.

B. The following requests for change require advance written approval by the issuing office at the address on page two of your award. Your request must be submitted directly to the Grant Specialist at least 30 calendar days prior to the requested effective date of the change or prior to the expiration date of the award:

1. Changes in the scope, objective, or key personnel referenced in the Recipient's proposal.
2. Transfer of funds between direct cost categories when the cumulative amount of transfers during the project period exceeds 10 percent of the total award.

3. Acquisition of nonexpendable personal property (equipment) not approved at time of award.
4. Change in the project period. The Recipient shall include in the request the cause of the needed extension, a description of the remaining work to be completed, the proposed date of completion, the amount of funds remaining, and a revised budget for the remaining funds. If all funds have been disbursed to the Recipient, then this situation must be indicated in the request. A request for an extension that is received by the Grant Specialist after the expiration date shall not be honored. For continuing work, an extension shall delay the award of a follow-on agreement until such time that the first agreement has been completed. An extension for any time period beyond the original expiration may, in unusual circumstances, result in the cancellation of intended subsequent agreement awards.
5. Creation of any direct cost line item not approved at time of award.
6. Any other significant change to the award.

C. The Grant Specialist will notify the Recipient in writing within 30 calendar days after receipt of the request for revision or adjustment whether the request has been approved.

A.7. Pre-Agreement Costs

Pre-agreement costs may be considered and approved on a case-by-case basis. However, approval must be requested and granted **prior to incurring any expenses**. Written approval must be given by the USGS Office of Acquisitions and Grants.

A.8. Site Visits

Site visits may be made by USGS representatives to review program accomplishments and management control systems and to provide technical assistance, as required.

A.9. Violation of Award Terms

If a Recipient materially fails to comply with the terms of the award, the Contracting Officer may suspend, terminate, or take such other remedies as may be legally available and appropriate in the circumstances.

A.10. Award Closeout

Awards will be closed out once all requirements have been met. Maps, Technical, and Financial reports must be submitted on time as specified in Section A.5 of these Special Terms and Conditions. Failure to adhere to the reporting requirements may result in the delay or denial of further awards.

A.11. Government Involvement Statement

- (a) Substantial involvement is anticipated through the term of the cooperative agreement between the USGS and the Recipient.
- (b) The USGS and the Recipient will collaborate and participate in program planning for each phase of the project.

A.12. Modification

This award may be modified in writing by mutual consent of the Recipient representative and the Contracting Officer.

A.13. Geospatial Data Availability Requirements

Geospatial Data Act of 2018, Pub. L. 115-254, Subtitle F - Geospatial Data §§ 751- 759C codified at 43 U.S.C. §§ 2801- 2811 -Federal recipient collection of geospatial data through the use of the Department of the Interior financial assistance funds requires a due diligence search at the GeoPlatform.gov list of datasets to discover whether the needed geospatial-related data, products, or services already exist. If the required data set already exists, the recipient must use it. If the required data is not already available, the recipient must produce the proposed geospatial data, products, or services in compliance with applicable proposed guidance and standards established by the Federal Geospatial Data Committee (FGDC) posted to www.fgdc.gov. Recipients must submit a digital copy of all GIS data produced or collected as part of the award funds to the bureau or office via email or data transfer. All GIS data files shall be in open format. All delineated GIS data (points, lines or polygons) should be established in compliance with the approved open data standards with complete feature level metadata.

2 CFR 1402.315 Availability of Data

(a) All data, methodology, factual inputs, models, analyses, technical information, reports, conclusions, valuation products or other scientific assessments in any medium or form, including textual, numerical, graphic, cartographic, narrative, or audiovisual, resulting from a financial assistance agreement is available for use by the Department of the Interior, including being available in a manner that is sufficient for independent verification.

(b) The Federal Government has the right to:

(1) Obtain, reproduce, publish, or otherwise use the data, methodology, factual inputs, models, analyses, technical information, reports, conclusions, or other scientific assessments, produced under a Federal award; and

(2) Authorize others to receive, reproduce, publish, or otherwise use such data, methodology, factual inputs, models, analyses, technical information, reports, conclusions, or other scientific assessments, for Federal purposes, including to allow for meaningful third-party evaluation.

SECTION B – GENERAL PROVISIONS

B.1. Department of the Interior Standard Terms and Conditions

The Recipient shall be subject to the Department of the Interior Standard Terms and Conditions which are incorporated herein by reference and available on the Internet at: <https://www.doi.gov/grants/doi-standard-terms-and-conditions>

B.2. Additional Articles Required for Compliance with Statute or Regulation

Patent Rights (37 CFR § 401.14)

Unless otherwise provided in the Agreement, if this Agreement is for experimental, developmental, or research work, the following clause (implementing the Bayh-Dole Act, [35 U.S.C. § 200 et seq.]) shall apply. The recipient shall include this clause in all subawards for experimental, developmental, or research activities.

a. Definitions

1. INVENTION means any invention or discovery which is or may be patentable or otherwise protectable under Title 35 of the USC, to any novel variety of plant which is or may be protected under the Plant Variety Protection Act (7 U.S.C. § 2321 et seq.).
2. SUBJECT INVENTION means any invention of the recipient conceived or first actually reduced to practice in the performance of work under this Agreement, provided that in the case of a variety of plant, the date of determination (as defined in section 41(d)) must also occur during the period of performance.
3. PRACTICAL APPLICATION means to manufacture in the case of a composition or product, to practice in the case of a process or method, or to operate in the case of a machine or system; and, in each case, under such conditions as to establish that the invention is being utilized and that its benefits are to the extent permitted by law or Government regulations available to the public on reasonable terms.
4. MADE when used in relation to any invention means the conception or first actual reduction to practice of such invention.
5. SMALL BUSINESS FIRM means a small business concern as defined at section 2 of Pub. L. 85-536 (15 U.S.C. 632) and implementing regulations of the Administrator of the Small Business Administration. For the purpose of this clause, the size standards for small business concerns involved in government procurement and subcontracting at 13 CFR 121.3-8 and 13 CFR 121.3-12, respectively, will be used.
6. NON-PROFIT ORGANIZATION means a domestic university or other institution of higher education or an organization of the type described in Section 501(c)(3) of the Internal Revenue Code of 1954 (26 U.S.C. § 501(c)) and exempt from taxation under Section 501(a) of the Internal Revenue Code (26 U.S.C. § 501(a)) or any domestic non-profit scientific or educational organization qualified under a State non-profit organization statute.

b. Allocation of Principal Rights

1. The recipient may retain the entire right, title, and interest throughout the world to each subject invention solely made by recipient subject to the provisions of this Patent Rights clause, including (2) below, 35 U.S.C. §§ 202, 203 and 37 CFR § 401.14. Inventions made under this Agreement jointly by USGS and recipient will be jointly owned by both parties. However, where a USGS employee is a coinventor, the USGS may, for the purpose of consolidating rights in the invention and if it finds that it would expedite the development of the invention:
 - (a) license or assign whatever rights it may acquire in the subject invention to the nonprofit organization, small business firm, or non-Federal inventor in accordance with the provisions of this chapter; or
 - (b) acquire any rights in the subject invention from the nonprofit organization, small business firm, or non-Federal inventor, but only to the extent the party from whom the rights are

acquired voluntarily enters into the transaction and no other transaction under this chapter is conditioned on such acquisition.

With respect to any subject invention in which the recipient retains title, the Federal Government shall have a non-exclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the U.S. the subject invention throughout the world. If the Agreement indicates that it is subject to an identified international agreement or treaty, the U.S. Geological Survey (USGS) also has the right to direct the recipient to convey to any foreign participant such patent rights to subject inventions as are required to comply with that agreement or treaty.

2. If the recipient performs services at a Government owned and operated laboratory or at a Government owned and recipient operated laboratory directed by the Government to fulfill the Government obligations under a Cooperative Research and Development Agreement (CRADA) authorized by 15 U.S.C. 3710a, the Government may require the recipient to negotiate an agreement with the CRADA collaborating party or parties regarding the allocation of rights to any subject invention the recipient makes, solely or jointly, under the CRADA. The agreement shall be negotiated prior to the recipient undertaking the CRADA work or, with the permission of the Government, upon the identification of a subject invention. In the absence of such an agreement, the recipient agrees to grant the collaborating party or parties an option for a license in its inventions of the same scope and terms set forth in the CRADA for inventions made by the Government.

c. Invention Disclosure, Election of Title and Filing of Patent Applications by Recipient

1. The recipient will disclose each subject invention to USGS within two months after the inventor discloses it in writing to recipient personnel responsible for the administration of patent matters. The disclosure to USGS shall be in the form of a written report and shall identify the Agreement under which the invention was made and the inventor(s). It shall be sufficiently complete in technical detail to convey a clear understanding of the nature, purpose, operation, and, to the extent known, the physical, chemical, biological or electrical characteristics of the invention. The disclosure shall also identify any publication, on sale or public use of the invention, whether a manuscript describing the invention has been submitted for publication and, if so, whether it has been accepted for publication, at the time of disclosure. In addition, after disclosure to USGS, the recipient will promptly notify USGS of the acceptance of any manuscript describing the invention for publication, or of any on sale or public use planned by the recipient.

2. The recipient will elect in writing whether to retain title to any such invention by notifying USGS within two years of disclosure to USGS. However, in any case where publication, on sale, or public use has initiated the one-year statutory period wherein valid

patent protection can still be obtained in the U.S., the period for election of title may be shortened by USGS to a date that is no more than 60 days prior to the end of the statutory period.

3. The recipient will file its initial patent application on an invention to which it elects to retain title within one year after election of title or, if earlier, prior to the end of any statutory period wherein valid patent protection can be obtained in the U.S. after a publication, on sale, or public use. The recipient will file patent applications in additional countries or international patent offices within either ten months of the corresponding initial patent application, or six months from the date when permission is granted by the Commissioner of Patents and Trademarks to file foreign patent applications when such filing has been prohibited by a Secrecy Order.

4. Requests for extension of the time for disclosure to USGS, election, and filing under subparagraphs 1., 2., and 3. may, at the discretion of USGS, be granted.

d. Conditions When the Government May Obtain Title

The recipient will convey to USGS, upon written request, title to any subject invention:

1. if the recipient fails to disclose or elect the subject invention within the times specified in paragraph c. above, or elects not to retain title, provided that USGS may only request title within 60 days after learning of the failure of the recipient to disclose or elect within the specified times.

2. in those countries in which the recipient fails to file patent applications within the times specified in paragraph c. above, but prior to its receipt of the written request of USGS, the recipient shall continue to retain title in that country; or in any country in which the recipient decides not to continue the prosecution of any application for, to pay the maintenance fees on, or defend in a reexamination or opposition proceeding on, a patent on a subject invention.

e. Minimum Rights to Recipient

1. The recipient will retain a non-exclusive royalty-free license throughout the world in each subject invention to which the Government obtains title, except if the recipient fails to disclose the subject invention within the times specified in paragraph c. above. The recipient's license extends to its domestic subsidiaries and affiliates, if any, within the corporate structure of which the recipient is a party and includes the right to grant sublicenses of the same scope to the extent the recipient was legally obligated to do so at the time the Agreement was made. The license is transferable only with the approval of USGS except when transferred to the successor of that part of the recipient's business to which the invention pertains.

2. The recipient's domestic license may be revoked or modified by USGS to the extent necessary to achieve expeditious practical application of the subject invention pursuant to an application for an exclusive license submitted in accordance with applicable provisions at 37

CFR Part 404. This license will not be revoked in that field of use or the geographical areas in which the recipient has achieved practical application and continues to make the benefits of the invention reasonably accessible to the public. The license in any foreign country may be revoked or modified at discretion of USGS to the extent the recipient, its licensees, or its domestic subsidiaries or affiliates have failed to achieve practical application in that foreign country.

3. Before revocation or modification of the license, USGS will furnish the recipient a written notice of its intention to revoke or modify the license, and the recipient will be allowed thirty days (or such other time as may be authorized by USGS for good cause shown by the recipient) after the notice to show cause why the license should not be revoked or modified. The recipient has the right to appeal, in accordance with applicable regulations in 37 CFR Part 404 concerning the licensing of Government-owned inventions, any decision concerning the revocation or modification of its license.

f. Recipient Action to Protect Government Interest

1. The recipient agrees to execute or to have executed and promptly deliver to USGS all instruments necessary to: (i) establish or confirm the rights the Government has throughout the world in those subject inventions for which the recipient retains title; and (ii) convey title to USGS when requested under paragraph d. above, and to enable the Government to obtain patent protection throughout the world in that subject invention.

2. The recipient agrees to require, by written agreement, its employees, other than clerical and non-technical employees, to disclose promptly in writing to personnel identified as responsible for the administration of patent matters and in a format suggested by the recipient each subject invention made under this Agreement in order that the recipient can comply with the disclosure provisions of paragraph c. above, and to execute all papers necessary to file patent applications on subject inventions and to establish the Government rights in the subject inventions. The disclosure format should require, as a minimum, the information requested by paragraph c.1 above. The recipient shall instruct such employees through the employee agreements or other suitable educational programs on the importance of reporting inventions in sufficient time to permit the filing of patent applications prior to U.S. or foreign statutory bars.

3. The recipient will notify USGS of any decision not to continue prosecution of a patent application, pay maintenance fees, or defend in a reexamination or opposition proceeding on a patent, in any country, not less than 30 days before the expiration of the response period required by the relevant patent office.

4. The recipient agrees to include, within the specification of any U.S. patent application and any patent issuing thereon covering a subject invention, the following statement: "This invention was made with Government support under (identify the Agreement) awarded by the U.S. Geological Survey. The Government has certain rights in this invention."

5. The recipient or its representative will complete, execute and forward to USGS a confirmation of a License to the U.S. Government and the page of a United States patent application that contains the Federal support clause within two months of filing any domestic or foreign patent application.

g. Subcontracts

1. The recipient will include this Patent Rights clause, suitably modified to identify the parties, in all subcontracts, regardless of tier, for experimental, developmental or research work. The subcontractor will retain all rights provided for the recipient in this Patent Rights clause, and the recipient will not, as part of the consideration for awarding the subcontract, obtain rights in the subcontractors' subject inventions.

2. In the case of subcontracts, at any tier, when the prime award by USGS was a contract (but not a cooperative agreement), USGS, subcontractor, and contractor agree that the mutual obligations of the parties created by this Patent Rights clause constitute a contract between the subcontractor and the Foundation with respect to those matters covered by this Patent Rights clause.

h. Reporting on Utilization of Subject Inventions

The recipient agrees to submit on request periodic reports no more frequently than annually on the utilization of a subject invention or on efforts at obtaining such utilization that are being made by the recipient or its licensees or assignees. Such reports shall include information regarding the status of development, date of first commercial sale or use, gross royalties received by the recipient and such other data and information as USGS may reasonably specify. The recipient also agrees to provide additional reports in connection with any march-in proceeding undertaken by USGS in accordance with paragraph j. of this Patent Rights clause. As required by 35 U.S.C. § 202(c)(5), USGS agrees it will not disclose such information to persons outside the Government without the permission of the recipient.

i. Preference for United States Industry

Notwithstanding any other provision of this Patent Rights clause, the recipient agrees that neither it nor any assignee will grant to any person the exclusive right to use or sell any subject invention in the U.S. unless such person agrees that any products embodying the subject invention or produced using the subject invention will be manufactured substantially in the U.S. However, in individual cases, the requirement for such an agreement may be waived by USGS upon a showing by the recipient or its assignee that reasonable but unsuccessful efforts have been made to award licenses on similar terms to potential licensees that would be likely to manufacture substantially in the U.S. or that under the circumstances domestic manufacture is not commercially feasible.

j. March-in Rights

The recipient agrees that with respect to any subject invention in which it has acquired title, USGS has the right in accordance with procedures at 37 CFR § 401.6 and USGS regulations at 45 CFR § 650.13 to require the recipient, an assignee or exclusive licensee of a subject invention to grant a non-exclusive, partially exclusive, or exclusive license in any field of use to a responsible applicant or applicants, upon terms that are reasonable under the circumstances and if the recipient, assignee, or exclusive licensee refuses such a request, USGS has the right to grant such a license itself if USGS determines that:

1. such action is necessary because the recipient or assignee has not taken or is not expected to take within a reasonable time, effective steps to achieve practical application of the subject invention in such field of use;
2. such action is necessary to alleviate health or safety needs which are not reasonably satisfied by the recipient, assignee, or their licensees;
3. such action is necessary to meet requirements for public use specified by Federal regulations and such requirements are not reasonably satisfied by the recipient, assignee, or licensee; or
4. such action is necessary because the agreement required by paragraph i. of this Patent Rights clause has not been obtained or waived or because a licensee of the exclusive right to use or sell any subject invention in the U.S. is in breach of such agreement.

k. Special Provisions for Agreements with Non-profit Organizations

If the recipient is a nonprofit organization, then it agrees that:

1. rights to a subject invention in the U.S. may not be assigned without the approval of USGS, except where such assignment is made to an organization which has as one of its primary functions the management of inventions, provided that such assignee will be subject to the same provisions as the recipient;
2. the recipient will share royalties collected on a subject invention with the inventor, including Federal employee co-inventors (when USGS deems it appropriate) when the subject invention is assigned in accordance with 35 U.S.C. § 202(e) and 37 CFR § 401.10;
3. the balance of any royalties or income earned by the recipient with respect to subject inventions, after payment of expenses (including payments to inventors) incidental to the administration of subject inventions, will be utilized for the support of scientific or engineering research or education; and
4. it will make efforts that are reasonable under the circumstances to attract licensees of subject inventions that are small business firms and that it will give preference to a small business firm if the recipient determines that the small business firm has a plan or proposal for marketing the invention which, if executed, is equally likely to bring the invention to practical application as any plans or proposals from applicants that are not small business firms; provided that the recipient is also satisfied that the small business firm has the capability and

resources to carry out its plan or proposal. The decision whether to give a preference in any specific case will be at the discretion of the recipient. However, the recipient agrees that the Secretary of Commerce may review the recipient's licensing program and decisions regarding small business applicants, and the recipient will negotiate changes to its licensing policies, procedures or practices with the Secretary when the Secretary's review discloses that the recipient could take reasonable steps to implement more effectively the requirements of this paragraph k.4.

I. Communications

All communications required by this Patent Rights clause must be submitted through the Office of Policy and Analysis (OPA), U.S. Geological Survey, Reston, VA 20192, gs_usgs_patents@usgs.gov.

B.3 Additional General Terms and Conditions

a) Research Integrity

1) USGS requires that all grant or cooperative agreement Recipient organizations adhere to the Federal Policy on Research Misconduct, Office of Science and Technology Policy, December 6, 2000, 65 Federal Register (FR) 76260. The Federal Policy on Research Misconduct outlines requirements for addressing allegations of research misconduct, including the investigation, adjudication, and appeal of allegations of research misconduct and the implementation of appropriate administrative actions.

2) The Recipient must promptly notify the USGS Project Office when research misconduct that warrants an investigation pursuant to the Federal Policy on Research Misconduct is alleged.

b) Data Availability

1) Applicability. The Department of the Interior is committed to basing its decisions on the best available science and providing the American people with enough information to thoughtfully and substantively evaluate the data, methodology, and analysis used by the Department to inform its decisions.

2) Use of Data. The regulations at 2 CFR 200.315 apply to data produced under a Federal award, including the provision that the Federal Government has the right to obtain, reproduce, publish, or otherwise use the data produced under a Federal award as well as authorize others to receive, reproduce, publish, or otherwise use such data for Federal purposes.

3) Availability of Data. The recipient shall make the data produced under this award and any subaward(s) available to the Government for public release, consistent with applicable law, to allow meaningful third-party evaluation and reproduction of the following:

- a. The scientific data relied upon;
- b. The analysis relied upon; and
- c. The methodology, including models, used to gather and analyze the data.

c) Conflict of Interest

1) Applicability.

- a. This section intends to ensure that non-Federal entities and their employees take appropriate steps to avoid conflicts of interest in their responsibilities under or with respect to Federal financial assistance agreements.
- b. In the procurement of supplies, equipment, construction, and services by recipients and by subrecipients, the conflict-of-interest provisions in 2 CFR 200.318 apply.

2) Requirements.

- a. Non-Federal entities must avoid prohibited conflicts of interest, including any significant financial interests that could cause a reasonable person to question the recipient's ability to provide impartial, technically sound, and objective performance under or with respect to a Federal financial assistance agreement.
- b. In addition to any other probations that may apply with respect to conflicts of interest, no key official of an actual or proposed recipient or subrecipient, who is substantially involved in the proposal or project, may have been a former Federal employee who, within the last one (1) year, participated personally and substantially in the evaluation, award, or administration of an award with respect to that recipient or subrecipient or in development of the requirement leading to the funding announcement.
- c. No actual or prospective recipient or subrecipient may solicit, obtain, or use non-public information regarding the evaluation, award, or administration of an award to that recipient or subrecipient or the development of a Federal financial assistance opportunity that may be of competitive interest to that recipient or subrecipient.

3) Notification.

a. Non-Federal entities, including applicants for financial assistance awards, must disclose in writing any conflict of interest to the DOI awarding agency or pass-through entity in accordance with 2 CFR 200.112, Conflicts of Interest.

b. Recipients must establish internal controls that include, at a minimum, procedures to identify, disclose, and mitigate or eliminate identified conflicts of interest. The recipient is responsible for notifying the USGS Contracting Officer in writing of any conflicts of interest that may arise during the life of the award, including those that have been reported by subrecipients.

4) Restrictions on Lobbying. Non-Federal entities are strictly prohibited from using funds under this grant or cooperative agreement for lobbying activities and must provide the required certifications and disclosures pursuant to 43 CFR Part 18 and 31 USC 1352.

5) Review Procedures. The USGS Contracting Officer will examine each conflict-of-interest disclosure based on its particular facts and the nature of the proposed grant or cooperative agreement and will determine whether a significant potential conflict exists and, if it does, develop and appropriate means for resolving it.

6) Enforcement. Failure to resolve conflicts of interest in a matter that satisfies the Government may be cause for termination of the award. Failure to make required disclosures may result in any of remedies described in 2 CFR 200.338, Remedies for Noncompliance, including suspension or debarment (see also 2 CFR Part 180).

d) Program Income

1) If the Recipient is an educational institution or nonprofit research organization, then any other program income will be added to funds committed to the project by the Federal awarding agency and Recipient and be used to further eligible project or program objectives, as described in 2 CFR 200.307(e)(2).

2) For all other types of Recipients, any other program income will be deducted from total allowable costs to determine the net allowable costs before calculating the Government share of reimbursable costs, as provided in 2 CFR 200.307(e)(1).

e) Government Furnished Property or Property Authorized for Purchase

Title to nonexpendable personal property acquired wholly or in part with Federal funds shall be vested in the Recipient unless otherwise specified in the award document. The Recipient shall retain control and maintain a property inventory of such property if there is a need for such property to accomplish the purpose of the project, whether the project continues to be supported by Federal funds. When there is no longer a need for such property to accomplish the purpose of the project, the Recipient shall use the property in connection with other Federal awards the Recipient has received. Disposal of nonexpendable personal property shall be in accordance with 2 CFR 200.313.

There is no non-expendable personal property authorized on this grant/cooperative agreement.

-- End of Attachment --

ATTACHMENT D

CONTACT INFORMATION FOR STATE GEOLOGICAL SURVEYS

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ATTACHMENT E

CONTACT INFORMATION FOR USGS PROJECT LEADS AND ONGOING PROJECTS
OF THE NATIONAL COOPERATIVE GEOLOGIC MAPPING PROGRAM

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Northern Pacific Border, Cascades and Columbia Plateau Project	James O'Connor	oconnor@usgs.gov
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Western Basin and Range – Eastern California Shear Zone	Andy Cyr	acyr@usgs.gov
Lower Colorado River System Project	Ryan Crow and Kyle House	rcrow@usgs.gov khouse@usgs.gov
GeoMapping for Integrated Science	Kevin Schmidt	kschmidt@usgs.gov
Argon Geochronology for Geologic Mapping Project	Andrew Calvert	acalvert@usgs.gov
NCGMP Lab Facilities Project	Adam Hudson	ahudson@usgs.gov
Ozarks, Ouachita, and Southern Lowlands Project	Mark Hudson	mhudson@usgs.gov
Intermountain West Geologic Framework Integration Project	Kenzie Turner	kturner@usgs.gov
High-Resolution Topographic Data for Geologic Mapping Project	Samuel Johnstone	sjohnstone@usgs.gov
Glaciated Regions Project	Chris Swezey	cswezey@usgs.gov
Blue Ridge and Piedmont Project	Mark Carter and Arthur Merschat	mcarter@usgs.gov amerschat@usgs.gov
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Project Name	Project Lead	Email Address
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ATTACHMENT F

Current (FY2023) EDMAP Projects

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