



**UNITED STATES DEPARTMENT
OF THE INTERIOR
U.S. GEOLOGICAL SURVEY**

-- EDMAP --

The Educational Component of the
National Cooperative Geologic Mapping Program

Authorized by The National Geologic Mapping Reauthorization Act of 2009
(Public Law 111-11)

PROGRAM ANNOUNCEMENT No. G16AS0000X

For Fiscal Year 2016

ISSUE DATE: September 9, 2015

CLOSING DATE & TIME

November 9, 2015 at 3:00 p.m. EST

PLEASE READ THE ENTIRE ANNOUNCEMENT CAREFULLY AND NOTE ANY CHANGES

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SF-425 – Federal Financial Report (due at the end of project period and submitted electronically through FedConnect). This form is no longer attached but can be downloaded from: http://www.whitehouse.gov/omb/grants_forms/

PROGRAM ANNOUNCEMENT CHANGES

Special Terms and Conditions

Please review the revised Terms and Conditions, Attachment C, beginning on page 19.

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

A. The National Geologic Mapping Act

The 102nd Congress recognized that the 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. The Act has been re-authorized three times since then, most recently by the 111th Congress in 2009 (Public Law 111-11, sec. 11001). The Act recognizes that geologic maps are the primary database for virtually all applied and basic earth-science investigations. To read copies of the original act and the two reauthorizations, visit: <http://ncgmp.usgs.gov/about/>

The objectives of the National Cooperative Geologic Mapping Program (NCGMP) as outlined in the Act are to:

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

For more information about the future goals of the NCGMP, our NCGMP 5-Year Plan is available at: <http://ncgmp.usgs.gov/about/>

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 NCGMP provides funds for graduate and undergraduate students in academic research projects that involve geologic mapping as a **major** component. Through cooperative agreements NCGMP hopes to expand the research and educational capacity of academic programs that teach earth science students the techniques of geologic mapping and field data analysis. Another important goal is to increase the level of communication between the Nation's geologic surveys (both the USGS and State Geological Surveys) and geologic mappers in the academic community. We hope that this improved communication will have two results: 1) that the academic mapping community will learn more about the societal needs that drive geologic mapping projects at the USGS and State Geologic Surveys, and 2) more geologic maps produced in academia will eventually be made available to the public.

Since 2015, EDMAP has funded 1167 students from 157 universities. The success of the program is apparent in that 95% of student respondents to an annual survey either received jobs

in geoscience fields or pursued further degrees. The program tracks students 3 years after completion of their EDMAP project to evaluate the success of the program.

For more information about the USGS NCGMP EDMAP program please visit:
<http://ncgmp.usgs.gov/about/edmap.html>

C. EDMAP Proposals

Proposals are to be submitted for a 12 month continuous project effort. Only one proposal will be accepted from an individual Principal Investigator (PI) (Professor or faculty advisor), although more than one proposal *will* be accepted from a single university if authored by different Principal Investigators. The Principal Investigator is required to write and submit the proposal. The primary emphasis of the proposal must be on student mapping in the field. All proposals must inform or coordinate with a State Geological Survey or a Project Chief in the USGS National Cooperative Geologic Mapping Program or other USGS projects that have a significant geologic mapping component. (To obtain contact information for State Geological Surveys see **Attachment D** or visit: <http://www.stategeologists.org/>. To obtain contact information for USGS Projects see **Attachment E** or visit <http://ncgmp.usgs.gov/about/fedmap.html>.) Even if you do not seek active participation by the State Geological Survey or the USGS, letting them know that you are planning a project in their state or field area fulfills this requirement. 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. **A written letter of acknowledgement or support from a State Geologist or USGS Project Chief must accompany all proposals** (see proposal criteria *1. Coordination* below).

D. Geologic Map Products

A geologic map is defined as a map that depicts the geographic distribution at the earth's surface of bedrock and/or surficial geologic materials and structures, on a published base map showing topography, hydrography, culture, cadastral, and other base information. Digital geologic maps may also contain a great variety of point data for specific sites, creating a 3-dimensional database. A geologic map should include: (1) a clear and legible base (include base map credit and map projection), (2) scale and contour interval, (3) north arrow and magnetic declination, (4) title, authorship, publisher, and date, (5) location index map, (6) field data or field data stations, (7) description of map units, (8) explanation of map symbols, and (9) unit symbols on map. A geologic map may also include correlation or sequence of map units, stratigraphic columns, cross sections, and text. Examples of items or maps that **are not** considered appropriate substitutes for geologic maps include: structure contour maps, isopach maps, stratigraphic and/or facies diagrams, aquifer maps, gravity or magnetic anomaly maps, and element-distribution geochemical maps. If these types of derivative maps are to be produced, they must be in addition to a basic geologic map deliverable.

Deliverable geologic maps will consist of new data acquired during the award period and should be at a scale of 1:24,000 or larger. If smaller scale geologic mapping is proposed, it should be well justified. It is hoped that students will learn the techniques of detailed field mapping, and in most cases reconnaissance mapping and compilation is not considered appropriate. Emphasis is

on the development of *new* geologic maps. Principal Investigators must plan mapping projects in coordination with other mapping projects in your field area since the NCGMP will not fund two maps (quadrangles) of equitable scale from both EDMAP and STATEMAP programs.

All EDMAP deliverables are required to be delivered as a high quality digital Portable Document Format (PDF or GeoPDF) files. **No hardcopy maps will be accepted.** At the end of an awarded cooperative agreement period of performance, your EDMAP map deliverable is required to be transmitted either by mail on CD/DVD media or electronically to the EDMAP Program Coordinator at the address shown in Part IV, Section F. Current options for delivery are by CD/DVD media via mail, FTP, DropBox, or email for smaller files. The exception to the new requirement is only for interim geologic maps that may not be complete by the end of the first field season. These geologic maps may be submitted in paper format as draft “field sheet” quality as long as there is clear evidence that the student has made significant progress.

Because your student’s maps are a significant component of the NCGMP, we would like to post all EDMAP deliverable geologic maps on the USGS National Geologic Map Database (NGMDB) website (<http://ngmdb.usgs.gov/>), which currently provides access to more than 83,000 geoscience publications. If you do not want your student’s map deliverable posted to the NGMDB website indicate that to us in your transmittal letter when you submit your deliverable. Unless otherwise indicated, your student’s map will be uploaded to the website with a disclaimer watermark identifying the map as an unpublished EDMAP deliverable. Since many EDMAP products do not get published, we feel that this is an excellent way for map users to find these geologic maps as well as a way for students to show their good work to the world. An example from the NGMDB of an EDMAP student geologic map can be found at: http://ngmdb.usgs.gov/Prodesc/prodesc_81551.htm

To assist the student and Principal Investigator in map preparation, a Digital Cartographic Resources website is available at: <http://ngmdb.usgs.gov/Info/cartores/>. It is recommended that it be used as one starting point for preparation of the EDMAP product. Suggestions for improving that website are welcomed by contacting Dave Soller (drsoller@usgs.gov).

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

A. Timetables

Proposal Announcement Date: September 9, 2015.

Closing Date and Time for Proposal Submission: November 9, 2015 @ 3:00 p.m. (EST)

B. Eligibility - Who May Submit a Proposal

U.S. accredited university Geoscience or related departments are eligible for EDMAP funds. University professors must write and submit the proposals. EDMAP cooperative agreements are intended to fund graduate (Masters and Doctoral) and upper level (junior and senior) undergraduate students conducting geologic mapping in the field. Undergraduate students must have received mineralogy, petrology and structural geology training prior to the time they are to begin the proposed geologic mapping project. While it is proper for the Principal Investigator or

faculty advisor to ask for some logistical support so that they may be with their student(s) in the field for a credible amount of time, the bulk of the award is intended to support the student's mapping efforts. **EDMAP cooperative agreements do not support faculty salaries nor do they support student tuition.**

NOTE: Since the timing of proposal submission comes soon after the beginning of the school year, we appreciate that it is sometimes difficult to identify the student(s) who will do the mapping, especially in the case of new graduate students. Proposals submitted that do not identify the actual students who will do the mapping is allowed. However, the name, contact information, and vitae (qualifications) of ALL students must be submitted to the USGS, before the Office of Acquisition and Grants formally issues the cooperative agreement. This should give professors two or more extra months to identify student mappers. It is preferred that most students will be identified in the original proposals. Finally, even if the name and vitae of the student(s) is not included in the proposal, it must be made clear whether the student is an undergraduate, a Masters, or a Doctoral student. Otherwise the Proposal Evaluation Panel will not be able to determine if the students are qualified to do the described level of work.

Universities that have been previously funded under EDMAP must be in compliance with requirements specified in previous EDMAP awards and must have no outstanding deliverables (transmittal letter, geologic maps, and technical reports) due. Failure to meet previous award requirements will be grounds for ineligibility.

Student Eligibility

Students are eligible for two years of EDMAP funding. Although the program envisions that students may be funded for two consecutive field seasons, a student may also be proposed from two different institutions, degrees, or Principal Investigators. However, the student is only eligible for two years of funding cumulatively. The Principal Investigator must indicate in the proposal if the student has received any prior EDMAP funding.

C. Proposal Format Instructions

Proposals must be arranged according to the format provided below. Following this format ensures that every proposal contains all essential information, and is evaluated equitably. All documents must be combined and submitted as one Portable Document Format (PDF) file. **Please organize your documents in the following order and combine them into one PDF file for submission.**

All proposals **must** include the following documents:

1. Standard Form 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 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. They 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. Some may have an individual audit agency review and provide an agreement. It is basically the documentation that is used that determines the indirect cost rate that is listed on your budget. You can include this as an attachment at the end of your proposal. If your university requests fringe benefits or indirect costs this agreement is required to verify rates.
5. Support letter from State Geologist or USGS Project Chief. A letter of acknowledgement or support from the State Geologist in the state that you are proposing to conduct field mapping or a USGS Project Chief is mandatory. It is highly recommended that discussions occur with the State Geologist and/or the USGS Project Chief prior to the request of a letter of support. Informing them of your proposed field mapping and research is of benefit to everyone. If other organizations are supporting your proposed project, letters of support are welcome. To find a list of State Geologists and USGS Project Chiefs please refer to Attachments D and E of this program announcement.
6. EDMAP Proposal Summary Sheet (**Attachment A**).
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 vitae. (The attachments and budget sheets are **not** included in the 10-page limit.) Exceeding the page limit will **not** be to your benefit. The technical section of your proposal includes 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) identify the state and quadrangle or areas that you will be mapping in. Please be clear and concise to briefly describe what you propose to do in your project. Do not include personal information. This abstract will be used to acknowledge EDMAP cooperative agreement awardees and post to the USGS EDMAP website.
 - b. Introduction. The introduction is a brief description of the problem and background. Particular reference should be made to any earlier mapping, or mapping going on nearby at present time. If the student has received an EDMAP award in a previous year, results of that work should be briefly summarized in a paragraph. 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. A clear, readable map (with scale) showing the location (with coordinates) of your project area or quadrangle should accompany the text. Remember that the Proposal Evaluation Panel may not know your proposed field area's geography as well as you.
- d. Purpose and Justification. This section should answer a few simple, but important questions. Why are you doing this mapping? What scientific questions are you addressing? What benefits will society receive from the mapping? It is helpful to include basic science benefits as well as the applied science. If you have previously proposed similar research it is to your benefit to convey how the current proposal ties into it and how it is different. It is best to avoid boilerplate proposals from year-to-year.
- e. Strategy for Performing the Geologic Mapping. This section should explain how your student will achieve the scientific results presented in the previous section through geologic mapping. A short discussion about the digital cartography and GIS component of the mapping is also beneficial. If the objectives can only be accomplished with the support of drilling, or other analytical services such as geochronology or geochemistry, please describe these activities here. **Keep in mind that most of the budget request should go toward getting the student in the field, and that these support investigations (drilling and analytical services) should be limited to less than 20 percent of the overall budget request.**
- f. Timetable and mentoring strategy. Provide a realistic timetable and mentoring approach 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 Principal Investigator/faculty advisor will spend in the field with the student and what his/her specific role will be. Clearly discuss how the Principal Investigator/faculty advisor will **mentor the student before, during, and after the fieldwork.** If the student has 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. Will there be any student interaction with or advisement from State Geological Survey staff or USGS scientists? The program considers project review by USGS and State Geological Survey partners an important part of EDMAP Projects and sharing your project plan with them is beneficial.
- g. Deliverables. You must provide a list all maps and accompanying technical reports by quadrangle, portion of quadrangle, or area (indicate bounding coordinates), and their scale, that will be produced by this project. The EDMAP program has transitioned to digital map and technical report deliverables as discussed in Part I, Section D. *Geologic Map Products* above. Indicate here what delivery method that you intend to use (CD/DVD by mail, FTP, DropBox, or email for small files) and if you foresee any difficulties in providing digital (PDF or GeoPDF) maps and accompanying technical reports. See Part IV, Section F for more information about

Project Deliverables. At this time we prefer not to receive your GIS files only a PDF of your final map product.

- h. Project Personnel. Proposed personnel must include the name of Principal Investigator, other supervising professor(s), and student(s). Clearly list the primary student mapper(s) and those that will be mapping assistants. Keep in mind that the primary student mapper will be the first author of the map deliverable while mapping assistants will be secondary authors or acknowledged on the map. A short biography of each 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. The Principal Investigator should include educational information about the student's prior geologic mapping experience (field camp or other mapping projects), and any course work that would help significantly in geologic mapping. The Principal Investigator and other supervising professors should include teaching experience of geologic mapping or related courses, prior geologic mapping publications, and other geologic mapping experience. NCGMP strongly encourages geologic mapping projects to be a buddy system approach to promote safe field practices.
 - i. Other support. If the student has pending requests for support from other institutions, these requests should be listed.
 - j. Budget explanation and justification. It is important that the Proposal Evaluation Panel understand your budget in order 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 following Budget Sheet (Attachment B).
8. 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 another student, it may be useful to submit separate budget sheets. **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, 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 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 university, 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 WILL HELP AVOID POSSIBLE DELAYS IN PROCESSING A FUNDED PROPOSAL, AS AN AWARD WILL NOT BE ISSUED UNTIL ALL REQUIRED INFORMATION IS PROVIDED.

The budget should contain the following:

Note: EDMAP allows the total of Direct and Indirect charges to equal \$17,500 for

graduate students and \$10,000 for undergraduate students per year.

- 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 geologic mapping project. No faculty salary is allowed.
- b. Fringe Benefits. Propose your rates/amounts. If rates are audit approved, include a copy of the audit agreement and/or the name of the audit agency.
- 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** for the purchase or rental of capital equipment, such as computers, GPS units, rock hammers, Brunton compasses, hand lenses, cameras, or other nonexpendable items. Matching funds may be used for this purpose, provided they are directly related and essential to the project. Itemize supplies such as base maps, aerial photographs, petrographic thin sections, film, 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 and geochronology) expenses are to be capped to less than 20 percent of your total proposal costs. Remember that a primary goal of the EDMAP program is to train students in the skills of geologic mapping and interpretation in the field.
- f. Non-allowable Expenses
 - 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.
 - Teaching assistantships. Federal EDMAP funds **are not** intended for teaching assistantship salaries. Federal EDMAP funds may be used to support student research assistantships as long as the student is working exclusively on the EDMAP project.
 - Professional meetings. Federal EDMAP funds **are not** intended for travel or registration to professional meetings nor are they an acceptable Federal match.
 - Software. Software licenses and maintenance contracts are non-allowable expenses.

- 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 a university/department overhead expense. 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/University 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.**
- 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. **Important Note:** The 2009 Reauthorization of the National Geologic Mapping Act (Public Law 111-11) states that the USGS and recipients of EDMAP grants shall not use more than 15.25 percent of Federal funds to pay for indirect, servicing, or program management charges. This is equivalent to 18% of your total direct costs or charges.
- a. Regardless of the University’s federally negotiated indirect cost rate, a University **must** show a 1:1 match of the total direct costs and no more than 18% on the Federal indirect cost line. Up to 18% of a University’s total direct costs may be used as a University match on the University’s indirect cost line. If a University chooses (or is required) to show a higher than 18% rate on the University’s indirect cost line it can be listed under “uncollected indirect costs” on the University side, the result will be a higher University budget total than the Federal budget total. If the University approved rate is less than 18%, the approved rate must be used. This also applies to subcontracts. If you have a subaward issued for a portion of your project the same rules apply in regards to the 18% cap for indirect costs on the federal side.

Please read the statement below carefully to fully understand the matching requirements.

- i. Total. Total for items g and h. NOT TO EXCEED \$17,500 FOR EACH GRADUATE STUDENT AND \$10,000 FOR UNDERGRADUATES PER YEAR.

PLEASE NOTE THAT THE ABOVE COST CATEGORIES (Direct and Indirect Charges) MUST BE BROKEN DOWN AS DESCRIBED ABOVE.

The following is a summary of what is required in regards to the 1:1 match.

- **A 1:1 Federal/University match is required for TOTAL DIRECT CHARGES for each Proposed Individual Project Budget**

- **A 1:1 Federal/University match is required for TOTAL DIRECT CHARGES on the Proposed Total Budget**
- **A 1:1 Federal/University match is required for each Proposed Individual Project Budget TOTAL (this includes direct costs and indirect costs)**
- **A 1:1 Federal/University match is required for the TOTAL on the Proposed Total Budget (this included direct costs and indirect costs)**

D. Proposal Evaluation

EDMAP proposals will be reviewed by a 10-member panel in early January. Five (5) members will be professors. Two (2) members will be State Geologists chosen by the Association of American State Geologists. Three (3) members will be USGS geologists, including the EDMAP Program Coordinator who will serve as Chair, and who will choose the other two USGS members. All members will serve 3-year terms. The professors will act as lead reviewers. 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 originated from her/his university, or for which other potential conflicts of interest are recognized.

Evaluation Criteria. All proposals for funding will be considered using the criteria outlined below. Each reviewer will complete an evaluation form for each proposal reviewed, and these forms will become part of the official proceedings of the Proposal Evaluation Panel meeting. A summary of the review panel comments will be provided to the Principal Investigators for all proposals reviewed. The criteria are:

- 1. Coordination (10 points).** What is the degree of coordination between the Principal Investigator and student geologic mapper? Have they discussed or planned their mapping project with the appropriate State Geologist or USGS Project Chief? What is the degree of this coordination?
- 2. Justification (20 points).** How well does the proposed geologic mapping project answer any significant scientific questions, either pure or applied? How well does the mapping project address a problem that has any significant societal value?
- 3. Technical quality (30 points).** Are the scientific objectives clearly stated? How well does the proposal stress what is important and new? How does the proposal address necessary support data, such as paleontologic or geochemical information, if that data is critical to the success of the geologic mapping? How well does the mapping strategy focus on developing student mapping skills? Does the student appear to be capable of accomplishing the objectives stated, and in the time allowed?
- 4. Mentorship (25 points).** What is the level of faculty mentoring and will the faculty member be spending adequate time advising the student on geologic mapping techniques and other aspects of the project? How well does the proposal address details on mentoring activities including time before, during, and after the fieldwork? Are geologists from other organizations, such as the USGS or State Geological Surveys, included in the project?

5. **Budget (15 points).** Is the proposed budget commensurate with the level of effort required to accomplish the objectives? Is the cost reasonable relative to the anticipated results? Are non-Federal funds or in-kind services available to at least equally match the requested Federal funding amount? (For example, this could consist of documentation showing salary paid or intended to be paid to a graduate student for any work relating to the field project. In addition, university stipends for RA (Research Assistant) work paid to the student for any work related to the research project during the year can be used as the university match. Alternatively, match can be shown as money paid to undergraduate field assistants during work on the research project.) Is the budget designed primarily to get the student into the field to learn and perform geologic mapping? Is the amount of faculty advisor support modest and reasonable? Is the budget well itemized and explained and justified in detail?

PART III. Proposal Delivery and Submission Instructions

Hard copies of the proposals are no longer required. Applicants are held responsible for the proposal to be electronically submitted into GRANTS.GOV (www.grants.gov) by November 9, 2015 @ 3:00 p.m. (EST). To obtain step by step instructions for GRANTS.GOV please visit the following website: <http://www.usgs.gov/contracts/grants/grantsgov.html>. 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 in the upper right side 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 as 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.** If it is determined that a proposal will not be considered due to lateness, the applicant will be notified immediately.

All grant programs are required to use GRANTS.GOV to advertise program announcements. Any form that is not available online may be submitted as attachments 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 institution agrees to abide by the provisions of the National Cooperative Geologic Mapping Program.

1. The National Geologic Mapping Act of 2009, Public Law 111-11.
2. OMB Circular A-16 - Coordination of Surveying and Mapping Activities

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. A university can, however, propose other circulars in their proposal if these circulars are not applicable. Copies of these Circulars can be obtained from the Internet at:

<http://www.whitehouse.gov/omb/circulars/index.html>.

1. 2 CFR 220 "Cost Principles for Educational Institutions" (OMB Circular No. A-21)
2. OMB Circular A -110, "Uniform Administrative Requirements for Grants and Other Agreements with Institutions of Higher Education, Hospitals, and Other Nonprofit Organizations"
3. OMB Circular A-133, "Audits of States, Local Governments, and Non-Profit Organizations."

C. Rights in Technical Data

The U.S. Government may publish, reproduce, and use all technical data developed as a result of this assistance award in any manner and for any purpose, without limitation, and may authorize others to do the same. The Program Coordinator 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 Coordinator.

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. Publication may be in conventional format in paper copy, reproducible mylar or similar material, and electronic format as digital files on computer readable disk or CD-ROM. Guidelines for publication of digital map products can be found at: <http://ngmdb.usgs.gov/Info/standards/dataexch/STATEMAPguidelines.html>. Although specifically written for STATEMAP deliverables, it is equally appropriate as an EDMAP guideline. Additional map content and design guidance is available <http://ngmdb.usgs.gov/Info/cartores/>. 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 is submitted for publication with the understanding that the United States Government is authorized to reproduce and distribute reprints for governmental use."

2. A copy of each map with all accompanying explanatory information shall be submitted to

the Project Officer simultaneously with its submission for publication. If a map has been prepared as an electronic digital data file (or files), 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 Project Officer immediately following publication. One reprint should also be sent to the appropriate State Geological Survey.

3. Program credit. All geologic maps 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/University match. Recipients shall match each Federal dollar with a non-Federal dollar (**both 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 contribution must be listed in the proposal. The matching requirement must be met annually. If other non-Federal funds are used as match, 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 FY2016 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. Student mapping projects may last up to two years (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.** We anticipate issuing awards in the spring of

2016 therefore you should plan project start dates between April 15, 2016 and September 15, 2016.

4. If a university or college has been awarded a cooperative agreement for several students, and one or more of those students are unable for any reason to fulfill their geologic mapping project, 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 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 Coordinator, the Grant Specialist/Contracting Officer will make a final decision on a case-by-case basis and notify the Recipient in writing. Asking for a no-cost extension in no way jeopardizes the success of a future proposal. However, if a Principal Investigator asks for a no-cost extension, it cannot extend past a date 30 days in advance of the EDMAP Proposal Evaluation Panel meeting for the next funding cycle.

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. Costs incurred prior to receipt of an approved cooperative agreement will be at the risk of the university. Once the cooperative agreement for a successful proposal has been approved and released through FedConnect by the USGS Contracting Officer, the university may incur costs.

F. Project Deliverables

All geologic map deliverables (transmittal letter, technical report, and geologic map) must be sent to the EDMAP Program Coordinator before the last day of the performance period. All geologic maps and accompanying technical reports must include all student authors names (identify funded EDMAP students) and the statement of EDMAP Program Credit including the award number and year funded (Part IV, Section D.3).

All EDMAP deliverables are to be delivered as a high quality digital Portable Document Format (PDF or GeoPDF) files. At the end of an awarded cooperative agreement period of performance, a color version of your EDMAP deliverable(s) is required to be transmitted either by mail or electronically to the EDMAP Program Officer/Coordinator. Current options for delivery are by CD/DVD media via mail, FTP, DropBox, or email for smaller files. First year or interim map products can be of "in progress" or "field sheet" quality, but field data and other map information should be included so an evaluation of the progress of the project can be made. **The preferred method of delivery is DropBox and an EDMAP DropBox is available to Principal Investigators by emailing the Program Coordinator at dahoward@usgs.gov.**

At the time the transmittal letter, geologic map, and accompanying technical report are submitted to the EDMAP Program Coordinator, a copy should be sent to the appropriate State Geological Survey for their files.

EDMAP Program Officer/Coordinator:

U.S. Geological Survey
Attn: Douglas A. Howard
EDMAP Program Coordinator
908 National Center
12201 Sunrise Valley Drive
Reston, Virginia 20192
Email: dahoward@usgs.gov

-- END OF PROGRAM ANNOUNCEMENT --

ATTACHMENT A

USE THE FOLLOWING FORMAT

EDMAP PROPOSAL SUMMARY SHEET

(University/College, City & State)

1. PROPOSED PROJECT TITLE: _____

2. PRINCIPAL INVESTIGATOR(s)/SUPERVISING FACULTY:

Name: _____

Address: _____

Phone: _____

E-mail: _____

3. STUDENT NAME(s)/DEGREE PROGRAM:

4. AUTHORIZED INSTITUTIONAL REPRESENTATIVE

Name: _____

Address: _____

Phone: _____

E-mail: _____

5. LIST OF 7.5-MINUTE QUADRANGLES, OR PARTS OF QUADRANGLES, THAT
WILL BE MAPPED IN EACH PART OF THIS PROPOSAL: _____

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

7. HAS ANY STUDENT ON THIS PROPOSAL RECEIVED PREVIOUS EDMAP
SUPPORT?: _____

Attachment B

USE THE FOLLOWING FORMAT

University: _____
 Proposal Short Title: _____

National Cooperative Geologic Mapping Program Educational Geologic Mapping Program Element Proposed Total Budget

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

Budget Category	Amount Requested	Proposed University Amount
SALARIES:		
Student(s)	\$	\$
Faculty Supervisor	-----	\$
	\$	\$
(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 (%)*	\$	\$
Uncollected Indirect Cost	-----	
TOTALS	\$	\$

*Not to exceed 18%

Attachment B

USE THE FOLLOWING FORMAT

University: _____
 Proposal Short Title: _____

National Cooperative Geologic Mapping Program Educational Geologic Mapping Program Element Proposed Individual Project Budget

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

Budget Category	Amount Requested	Proposed University Amount
SALARIES:		
Student(s)	\$	\$
Faculty Supervisor	-----	\$
	\$	\$
(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 (%)*	\$	\$

Uncollected Indirect Cost	-----	
TOTALS	\$	\$

* Not to exceed 18%

ATTACHMENT C

I. SPECIAL TERMS AND CONDITIONS

1. Cooperative Agreement Administration

This cooperative agreement will be administered by:

U.S. Geological Survey
Office of Acquisition and Grants
Kimberly L. Dove, Grants Specialist
12201 Sunrise Valley Drive, MS 211
Reston, VA 20192
Telephone (703) 648-7487
Email: kdove@usgs.gov

Written communication shall make reference to the Cooperative Agreement number and shall be mailed to the address above or email to kdove@usgs.gov.

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 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.

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, they 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 recipients 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:

Regional Finance Center	Time Zone	Phone Number	Business Hours	Mailing Address
Philadelphia	Eastern	(215) 516-8021	7:30 a.m. - 4:00 p.m.	P.O. Box 51317 Philadelphia, PA 19115-6317
Kansas City	Central	(816) 414-2100	7:30 a.m. - 4:00 p.m.	P.O. Box 12599-0599 Kansas City, MO 64116-0599
San Francisco	Mountain or Pacific	(510) 594-7182	7:30 a.m. - 4:00 p.m.	P.O. Box 24700 Oakland, CA 94623-1700

d. Payments may be drawn in advance only as needed to meet immediate cash disbursement needs.

A waiver has been granted by the Associate Director for Administrative Policy and Services because this award involves payments to a foreign recipient.

- a. Payment will be made by Treasury Check upon receipt of a properly prepared SF 270 REQUEST FOR ADVANCE OR REIMBURSEMENT. Submit the SF 270 form to the address specified in E.1. Requests should be submitted on a quarterly basis. Request for the entire award amount will be denied.
- b. Payments may be drawn in advance only as needed to meet immediate cash disbursement needs.

4. Definitions

A. Grant Agreement

A grant agreement is the legal instrument reflecting a relationship between the Federal Government and a state or local government or other recipient whenever:

- (1) the principal purpose of the relationship is the transfer of money, property, services, or anything of value to the state or local government or other recipient in order 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) no substantial involvement is anticipated between the executive agency, acting for the Federal Government, and the state or local government or other recipient during performance of the contemplated activity.

B. Cooperative Agreement

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

- (1) the principal purpose of the relationship 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.

C. 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 actually 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.

D. Recipient

Recipient means grantee or cooperator.

E. 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.

F. Program Officer

- (1) The Program Officer will work closely with the Principal Investigator to ensure that all technical requirements are being met. The Program Officer's responsibilities

include, but are not limited to, providing technical advice on the accomplishment of the proposal's 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.

- (2) The Program Officer is **Douglas A. Howard, U.S. Geological Survey, 908 National Center, 12201 Sunrise Valley Drive, Reston, VA 20192**. The 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.

G. 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 into, 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 program announcement in coordination with the grants program manager.
- (2) Receiving grant proposals and related documents in response to a grant program announcement. The Grant Specialist as receiving official shall mark all proposals with a control number.
- (3) Approving the grant 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. She shall interpret grant 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.

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 1 of terms & conditions	On or before the last day of the 12-month project period.
3. SF 425- Federal Financial Report	SEE SECTION 5(B) BELOW	Electronically thru FedConnect	SEE SECTION 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.

The recipient will submit annual STANDARD FORM 425, FEDERAL FINANCIAL REPORT(S) for each individual USGS award. The SF 425 is available at - http://www.whitehouse.gov/omb/grants_forms. The SF 425 will be due ninety (90) calendar days after the grant year (i.e., 12 months after the approved effective date of the grant agreement and every 12 months thereafter until the expiration date of the grant agreement). USGS acknowledges that this annual reporting schedule may not always correspond with a specific budget period. The SF 425 must be submitted electronically through the FedConnect Message Center (www.fedconnect.net). If after 90 days, recipient has not submitted a report, 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 STANDARD FORM 425, FEDERAL FINANCIAL REPORT through FedConnect (www.fedconnect.net) no later than 90 calendar days after the grant/cooperative agreement completion date. The SF 425 is available at: http://www.whitehouse.gov/omb/grants_forms. 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 grant/agreement completion date, the ASAP subaccount for this award may be closed by USGS at any time.
- b. 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 Federal Financial Report (SF 425) 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 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. 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 may be made by the USGS. The following notation shall accompany manuscripts submitted to journals or professional publications for publication:

"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 Program Officer simultaneously with its submission for publication. One reprint of each published article shall be submitted to the 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."

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 grant's 12-month performance period. The technical report should be formatted on 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 and title of the Recipient's application, 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 final 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 grant. 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 Program Officer.

(e) Submit this report via email directly to the Project Officer (dahoward@usgs.gov) and Program Analyst (mmarketi@usgs.gov). A copy of the cover letter should be emailed to the Grant Specialist (kdove@usgs.gov).

E. Maps. One copy of each map with all accompanying explanatory information shall be submitted to the Program Officer by the end of the grant's end date and subsequently the updated map when published. If a map has been prepared as an electronic digital data file (or files), one copy of that file or files shall be submitted to the Program Officer via Dropbox, FTP or US mail on computer readable disk or CD- ROM. If needed, a document or electronic "README" file, prepared in the latest version of a major standard word processing program (such as Microsoft Word or Word Perfect) and instructions or codes needed to access the electronic digital file, shall accompany each file stating the program(s) used.

(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, reproducible Mylar or

similar material, and electronic format as digital files on computer readable disk, CD-ROM, or similar medium. The following notation shall accompany maps with explanatory information submitted to journals, professional organizations, or commercial firms for publication:

"This map and explanatory information is 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 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 (kdove@usgs.gov) identified in Section 1 on page 1 of the terms and conditions.

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.

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 45 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, this 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.

7. Nonexpendable Personal Property

The recipient shall comply with 2CFR Part 215, Section 215.34. 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 as long as there is a need for such property to accomplish the purpose of the project, whether or not 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. Under no circumstances shall title to such property be vested in a sub-tier recipient. Disposal of nonexpendable personal property shall be in accordance with the applicable OMB circular.

The following equipment will be vested: N/A

8. Record Retention Period

Unless the award requests a longer period, a Recipient shall retain all records for 3 years after the end of the project period for which it uses USGS award funds.

9. Pre-agreement Costs

Pre-agreement costs are not authorized under this program. Costs must be obligated during the performance period.

10. 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.

11. Metric Conversion (43 CFR Sec 12.915)

All progress and final reports, other reports, or publications produced under this award shall employ the metric system of measurements to the maximum extent practicable. Both metric and inch-pound units (dual units) may be used if necessary during any transition period(s). However, the recipient may use non-metric measurements to the extent the recipient has supporting documentation that the use of metric measurements is impracticable or is likely to cause significant inefficiencies or loss of markets to the recipient, such as when foreign competitors are producing competing products in non-metric units.

12. 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.

13. 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 5 of these Special Terms and Conditions. Failure to adhere to the reporting requirements may result in the delay or denial of further awards.

14. Partnership with Grantees/Cooperators

The USGS, through its federal grant/cooperative agreement awards, will collaborate with universities, federal state, local and tribal governments, and private organizations and businesses to provide relevant, timely, objective knowledge and information on natural resources, hazards, and the environment.

15. Buy American Act Requirements

Notice: Pursuant to Section 307(b) of the Department of the Interior (DOI) and Related Agencies Appropriations Act, FY 2000, Public Law 106-113, please be advised on the following:

In the case of any equipment or product that may be authorized to be purchased with financial assistance provided using funds made available in FY 2000 and thereafter, it is the sense of the Congress that entities receiving the assistance should, in expending the assistance, purchase only American-made equipment and products.

16. Anti-lobbying (43 CFR Part 18)

Recipient shall not use any part of the Department of the Interior funds provided hereunder for

any activity or the publication or distribution of literature that in any way tends to promote public support or opposition to any legislative proposal on which Congressional action is not complete.

17. Seat Belt Provision (43 CFR Sec. 12.2 (e))

Recipients of grants/cooperative agreements and/or sub-awards are encouraged to adopt and enforce on-the-job seat belt use policies and programs for their employees when operating company-owned, rented, or personally owned vehicles. These measures include, but are not limited to, conducting education, awareness, and other appropriate programs for their employees about the importance of wearing seat belts and the consequences of not wearing them.

18. Covenant Against Contingent Fee

The Recipient warrants that no person or agency has been employed or retained to solicit or secure this cooperative agreement or understanding for a commission, percentage, brokerage, or contingent fee, except bona fide employees or bona fide agreements or business. For breach or violation of this warranty, the Government shall have the right to annul this cooperative agreement award, or otherwise recover the full amount of such commission, percentage, brokerage, or contingent fee.

19. Officials Not To Benefit

No member of Congress, or resident commissioner, shall be admitted to any share or part of this agreement, or to any benefit that may arise there from; but this provision shall not be construed to extend to this agreement if made with a corporation for its general benefit.

20. Rights To Technical Data

The Government may publish, reproduce, and use all technical data developed as a result of this agreement in any manner and for any purpose, without limitation, and may authorize others to do the same.

21. 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.

22. No Endorsement Provision (43 CFR 12.2(d))

[Paragraph (B) applies to all awards. The remainder of this provision applies only when:

- *the principal purpose of the agreement is a partnership where the recipient/partner contributes resources to promote agency programs or publicize agency activities, assists in fundraising, or provides assistance to the agency; and*
 - *the agreement authorizes joint dissemination of information and promotion of activities being supported; and*
 - *the recipient is not a state government, a local government, or a Federally-recognized Indian tribal government.*
- A. Recipient shall not publicize or otherwise circulate, promotional material (such as advertisements, sales brochures, press releases, speeches, still and motion pictures, articles, manuscripts or other publications) which states or implies Governmental, Departmental, bureau, or Government employee endorsement of a product, service, or position which the recipient represents. No release of information relating to this award may state or imply that the Government approves of the recipient's work products, or considers the recipient's work product to be superior to other products or services.
- B. All information submitted for publication or other public releases of information regarding this project shall carry the following disclaimer:

The views and conclusions contained in this document are those of the authors and should not be interpreted as representing the opinions or policies of the U.S. Government. Mention of trade names or commercial products does not constitute their endorsement by the U.S. Government.

- C. Recipient must obtain prior Government approval for any public information releases concerning this award which refer to the Department of the Interior or any bureau or employee (by name or title). The specific text, layout photographs, etc. of the proposed release must be submitted with the request for approval.
- D. A recipient further agrees to include this provision in a subaward to any subrecipient, except for a subaward to a state government, a local government, or to a Federally-recognized Indian tribal government.

23. Use of U.S. Flag Air Carriers

Any air transportation to, from, between or within a country other than the U.S. of persons or property, the expense of which will be paid in whole or in part by U.S. Government funding, must be performed by, or under a code-sharing arrangement with, a U.S. flag air carrier if service provided by such a carrier is "available" (49 U.S.C. 40118, commonly referred to as the Fly America Act). Tickets (or documentation for electronic tickets) must identify the U.S. flag air carrier's designator code and flight number. See the Federal Travel Regulation §301-10.131 - §301-10.143 for definitions, exceptions, and documentation requirements. (See also Comp. Gen. Decision B-240956, dated September 25, 1991.)

24. Activities on Private and Other Non-Federal Lands

The recipient shall comply with applicable State, Local, and Tribal government laws, including laws relating to private property rights.

25. Access to Research Data

- A. By regulation (43 CFR 12.936), recipients that are institutions of higher education, hospitals, or non-profit organizations are required to release research data first produced in a project supported in whole or in part with Federal funds that are cited publicly and officially by a Federal agency in support of an action that has the force and effect of law (e.g., regulations and administrative orders). “Research data” is defined as the recorded factual material commonly accepted in the scientific community as necessary to validate research findings. It does not include preliminary analyses; drafts of scientific papers; plans for future research; peer reviews; communications with colleagues; physical objects (e.g., laboratory samples, audio or video tapes); trade secrets; commercial information; materials necessary to be held confidential by a researcher until publication in a peer-reviewed journal; information that is protected under the law (e.g., intellectual property); personnel and medical files and similar files, the disclosure of which would constitute an unwarranted invasion of personal privacy; or information that could be used to identify a particular person in a research study.
- B. These requirements do not apply to commercial organizations or to research data produced by state or local governments. However, if a state or local governmental grantee contracts with an educational institution, hospital, or non-profit organization, and the contract results in covered research data, those data are subject to these disclosure requirements.
- C. Requests for the release of research data subject to this policy are required to be made to USGS, which will handle them as FOIA requests under 43 CFR 2.25. If the data are publicly available, the requestor will be directed to the public source. Otherwise, the USGS Contracting Officer/Grants Officer, in consultation with the affected recipient and the PI, will handle the request. This policy also provides for assessment of a reasonable fee to cover recipient costs as well as (separately) the USGS costs of responding.

26. Trafficking in Persons (22 U.S.C. § 7104(g))

A. Provisions applicable to a recipient that is a private entity.

(1) You as the recipient, your employees, subrecipients under this award, and subrecipients’ employees may not:

- (a) Engage in severe forms of trafficking in persons during the period of time that the award is in effect;
- (b) Procure a commercial sex act during the period of time that the award is in effect; or
- a. Use forced labor in the performance of the award or subawards under the award.

(2) We as the Federal awarding agency may unilaterally terminate this award, without

penalty, if you or a subrecipient that is a private entity:

- (a) Is determined to have violated a prohibition in paragraph A (1) of this award term; or
- (b) Has an employee who is determined by the agency official authorized to terminate the award to have violated a prohibition in paragraph A (1) of this award term through conduct that is either:
 - (i) Associated with performance under this award; or
 - (ii) Imputed to you or the subrecipient using the standards and due process for imputing the conduct of an individual to an organization that are provided at 2 CFR part 180, “OMB Guidelines to Agencies on Government-wide Debarment and Suspension (Nonprocurement),” as implemented by our agency at 43 CFR Part 42.

B. Provision applicable to a recipient other than a private entity.

We as the Federal awarding agency may unilaterally terminate this award, without penalty, if a subrecipient that is a private entity.

- (1) Is determined to have violated an applicable prohibition in paragraph A(1) of this award term; or
- (2) Has an employee who is determined by the agency official authorized to terminate the award to have violated an applicable prohibition in paragraph A(1) of this award term through conduct that is either
 - (a) Associated with performance under this award; or
 - (b) Imputed to the subrecipient using the standards and due process for imputing the conduct of an individual to an organization that are provided in 2 CFR part 180, “OMB Guidelines to Agencies on Government-wide Debarment and Suspension (Nonprocurement),” as implemented by our agency at 43 CFR Part 42.

C. Provisions applicable to any recipient

- (1) You must inform us immediately of any information you receive from any source alleging a violation of a prohibition in paragraph A(1) of this award term.
- (2) Our right to terminate unilaterally that is described in paragraph A(2) or B of this section:
 - (a) Implements section 106(g) of the Trafficking Victims Protection Act of 2000 (TVPA), as amended (22 U.S.C. 7104(g)), and
 - (b) Is in addition to all other remedies for noncompliance that are available to us under this award.

- (3) You must include the requirements of paragraph A (1) of this award term in any subaward you make to a private entity.

D. Definitions

For purposes of this award term:

- (1) “Employee” means either:

- (a) An individual employed by you or a subrecipient who is engaged in the performance of the project or program under this award; or

- (b) Another person engaged in the performance of the project or program under this award and not compensated by you including, but not limited to, a volunteer or individual whose services are contributed by a third party as an in-kind contribution toward cost sharing or matching requirements.

- (2) “Forced labor” means labor obtained by any of the following methods: the recruitment, harboring, transportation, provision, or obtaining of a person for labor or services, through the use of force, fraud, or coercion for the purpose of subjection to involuntary servitude, peonage, debt bondage, or slavery.

- (3) “Private entity”:

- (a) Means any entity other than a state, local government, Indian tribe, or foreign public entity, as those terms are defined at 2 CFR 175.25.

- (b) Includes:

- (i) A nonprofit organization, including any nonprofit institution of higher education, hospital, or tribal organization other than one included in the definition of Indian tribe at 2 CFR 175.25(b).

- (ii) A for-profit organization.

- (4) Severe forms of trafficking in persons,” “commercial sex act,” and “coercion” have the meanings given at section 103 of the TVPA, as amended (22 U.S.C. 7102).

27. Research Integrity

- A. 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, 2001, 65 Federal Register (FR) 76260, http://www.ostp.gov/html/001207_3.html. Please note that there is an underscore between “001207” and “3.html”.) 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.

- B. 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.

28. Fiscal Integrity

The recipient will notify the USGS Contracting Officer/Grants officer of any significant problems relating to the administrative or financial aspects of the award, such as misappropriation of Federal funds.

29. Program Income

- A. The recipient will have no obligation to the Federal Government for program income earned from license fees and royalties for copyrighted material, in accordance with 43 CFR 12.924(h) (for A-110 recipients) or 43 CFR 12.65(e) (for A-102 recipients).
- B. If a purpose of this award is to support a conference, symposium, or similar event, income related to that event will be deducted from total allowable costs to determine the net allowable costs before calculating the Government's share of reimbursable costs, as provided at 3 CFR 12.65(g)(1) (for A-102 recipients) or 43 CFR 12.924(b)(3) (for A-110 recipients).
- C. If the recipient is an educational institution or nonprofit research organization, 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 at 43 CFR 12.924(b)(1).
- D. 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's share of reimbursable costs, as provided at 3 CFR 12.65(g)(1) (for A-102 recipients) or 43 CFR 12.924(b)(3) (for A-110 recipients).

30. Prohibition on Text Messaging and Using Electronic Equipment Supplied by the Government while Driving (Executive Order 13513)

Executive Order 13513, Federal Leadership On Reducing Text Messaging While Driving, was signed by President Barack Obama on October 1, 2009 (ref.: <http://edocket.access.gpo.gov/2009/pdf/E9-24203.pdf>). This Executive Order introduces a Federal Government-wide prohibition on the use of text messaging while driving on official business or while using Government-supplied equipment. Additional guidance enforcing the ban will be issued at a later date. In the meantime, please adopt and enforce policies that immediately ban text messaging while driving company-owned or rented vehicles, government-owned or leased vehicles, or while driving privately owned vehicles when on official government business of when performing any work for on behalf of the government.

31. Central Contractor Registration and Universal Identifier Requirements (2 CFR Part 25)

- A. Requirement for Central Contractor Registration (CCR)

Unless you are exempted from this requirement under 2 CFR 25.110, you as the recipient must maintain the currency of your information in the CCR until you submit the final financial report required under this award or receive the final payment, whichever is later. This requires that you review and update the information at least annually after the initial registration, and more frequently if required by changes in your information or another award term.

B. Requirement for Data Universal Numbering System (DUNS) Numbers

If you are authorized to make subawards under this award, you:

1. Must notify potential subrecipients that no entity (see definition in paragraph C of this award term) may receive a subaward from you unless the entity has provided its DUNS number to you.
2. May not make a subaward to an entity unless the entity has provided its DUNS number to you.

C. Definitions

For purposes of this award term:

1. Central Contractor Registration (CCR) means the Federal repository into which an entity must provide information required for the conduct of business as a recipient. Additional information about registration procedures may be found at the CCR Internet site (currently at <http://www.ccr.gov>).
2. Data Universal Numbering System (DUNS) number means the nine-digit number established and assigned by Dun and Bradstreet, Inc. (D&B) to uniquely identify business entities. A DUNS number may be obtained from D&B by telephone (currently 866-705-5711) or the Internet (currently <http://fedgov.dnb.com/webform>).
3. Entity, as it is used in this award term, means all of the following, as defined at 2 CFR part 25, subpart C:
 - a. A Governmental organization, which is State, local government, or Indian Tribe;
 - b. A foreign public entity;
 - c. A domestic or foreign nonprofit organization;
 - d. A domestic or foreign for-profit organization; and
 - e. A Federal agency, but only as a subrecipient under an award or subaward to a non-Federal entity.
4. Subaward:
 - a. This term means a legal instrument to provide support for the performance of any portion of the substantive project or program for which you received this award and that you as the recipient award to an eligible subrecipient.
 - b. The term does not include your procurement of property and services needed to carry out the project or program (for further explanation, see Sec. II.210 of the attachment to OMB Circular A-133, “Audits of States, Local Governments, and Non-Profit Organizations”).
 - c. A subaward may be provided through any legal agreement, including an agreement that you consider a contract.
5. Subrecipient means an entity that:
 - a. Receives a subaward from you under this award; and
 - b. Is accountable to you for the use of the Federal funds provided by the subaward.

II. GENERAL PROVISIONS

The Recipient shall be subject to the following OMB circulars/regulations, as amended, which are incorporated herein by reference:

1. Educational Institutions

- A. 2 CFR 220, Cost Principles for Educational Institutions (OMB Circular No. A-21)
- B. OMB Circular A-110, Uniform Administrative Requirements for Grants and Other Agreements with Institutions of Higher Education, Hospitals and Other Non-Profit Organizations, as implemented in 2 CFR 215 and 43 CFR Part 12, Subpart F.
- C. OMB Circular A-133, Audits of States, Local Governments, and Non-Profit Organizations, as implemented in 43 CFR Part 12, Subpart A: Administrative and Audit Requirements and Cost Principles for Assistance Programs.

2. State and Local Governments

- A. 2 CFR 225, Cost Principles for State, Local and Indian Tribal Governments (OMB Circular A-87)
- B. OMB Circular A-102, Grants and Cooperative Agreements with State and Local Governments; as implemented in 43 CFR Part 12, Subpart C.
- C. OMB Circular A-133, Audits of States, Local Governments, and Non-Profit Organizations, as implemented in 43 CFR Part 12, Subpart A: Administrative and Audit Requirements and Cost Principles for Assistance Programs.

3. Nonprofit Organizations

- A. 2 CFR Part 230, Cost Principles for Non-Profit Organizations (OMB Circular A-122), except recipients listed in Appendix C to Part 230 are subject to Federal Acquisition Regulation (FAR) Subpart 31.2, Contracts with Commercial Organizations (Contract Cost Principles and Procedures)
- B. OMB Circular A-110, Uniform Administrative Requirements for Grants and Other Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations, as implemented in 2 CFR 215 and 43 CFR Part 12, Subpart F.
- C. OMB Circular A-133, Audits of States, Local Governments, and Non-Profit Organizations, as implemented in 43 CFR Part 12, Subpart A: Administrative and Audit Requirements and Cost Principles for Assistance Programs.

4. Organizations for Profit, Individuals, and Other Not Covered Above

- A. Federal Acquisition Regulation (FAR) Subpart 31.2, Contracts with Commercial Organizations (Contract Cost Principles and Procedures)
- B. OMB Circular A-110, Uniform Administrative Requirements for Grants and Other Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations, as implemented in 2 CFR 215 and 43 CFR Part 12, Subpart F.
- C. FAR Subpart 42.1, Contract Audit Services; FAR Subpart 42.7, Indirect Cost Rates; FAR

Subpart 42.8, Disallowance of Costs.

5. Patents-Small Business and Nonprofit Organizations

Subject to the provisions set forth in 37 CFR 401 and 35 U.S.C. 203, a Recipient may retain the entire right, title, and interest throughout the world to each subject invention. With respect to any subject invention in which the Recipient retains title, the Federal Government will have a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practices for or on behalf of the United States the subject invention throughout the world.

6. Additional Regulations

This award is subject to the following additional Government-wide regulations:

- 2 CFR 180, Government Debarment and Suspension (Non-procurement)
- 2 CFR 1400, Department of the Interior Nonprocurement Debarment and Suspension

This award is subject to the following additional regulations of the U.S. Department of the Interior:

- 43 CFR Part 12, Subpart E: Buy American Requirements for Assistance Programs
- 43 CFR Part 17, Subpart A: Nondiscrimination of the Basis of Race, Color, or National Origin.
- 43 CFR Part 17, Subpart B: Nondiscrimination of the Basis of Handicap.
- 43 CFR Part 17, Subpart C: Nondiscrimination of the Basis of Age.
- 43 CFR Part 17, Subpart E: Enforcement of Nondiscrimination on the Basis of Handicap in Programs or Activities Conducted by the Department of the Interior.
- 43 CFR Part 18, New Restrictions on Lobbying
- 43 CFR Part 41, Nondiscrimination on the basis of sex in education programs or activities receiving Federal financial assistance [*Applies only if this award provides assistance to an education program or student(s).*]
- 43 CFR Part 43, Government-wide Requirement for Drug Free Workplace

-- End of Agreement --

ATTACHMENT D

CONTACT INFORMATION FOR STATE GEOLOGICAL SURVEYS

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ATTACHMENT E

Contact Information for USGS Project Chiefs and Ongoing Projects of the National Cooperative Geologic Mapping Program

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Ren Thompson	Cenozoic landscape Evolution of Southern Rocky Mountains	CO,NM, WY	303-236-7446	sminor@usgs.gov
Mark Hudson	Geologic Framework of the Southern Ozark and Trinity Aquifer	CO, NM,AR, TX	303-236-7446	mhudson@usgs.gov
David Weary	Karst Applied Research Studies	AR, MO, VA, WV	703-648-6897	dweary@usgs.gov
Robert E. Powell	San Andreas Fault System in Southern California (SAFSOC)	CA	520-670-5505	rpowell@usgs.gov
Scott Southworth	Appalachian Blue Ridge	MD, NC, PA, TN, VA	703-648-6385	Ssouthwo@usgs.gov
Victoria Langenheim	Geologic Controls on Hydrology in Sacramento Valley and other basins in California	CA	650-329-5313	zulanger@usgs.gov
Russell Graymer	Sesismic Hazards in Sacramento Delta	CA	650-329-4988	rgraymer@usgs.gov
Jon Hagstrum	Pacific Northwest Urban Corridor Geologic Mapping Columbia Corridor	OR, WA	650-329-4672	jhag@usgs.gov
William Page	US-Mexico Border Geologic Framework	AZ, CA, NM, TX	303-236-1141	rpage@usgs.gov
Margaret Berry	Greater Platte River Basin and Northern Plains Geologic Framework Studies	CO, NE, SD	303-236-1240	meberry@usgs.gov

David Miller	Cenozoic Tectonics of Mojave Desert	AZ, CA, NV, UT	650-329-4923	dmiller@usgs.gov
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