Federal Advisory Committee

for the

U.S. Geological Survey

National Cooperative Geologic Mapping Program

Annual Report to the Secretary of the Interior – 2006/2007

Executive Summary

In the view of the Federal Advisory Committee (FAC), the National Cooperative Geologic Mapping Program (NCGMP) is progressing well. The program is effective in creating new geologic maps that provide the Nation with the scientific information to address a broad range of issues, including (1) reducing risks from natural hazards, (2) land-management and land-use decisions, (3) assessment of water, energy, and mineral resources, (4) environmental and health concerns, and (5) furthering our scientific knowledge about Earth processes. The program also is helping to train the next generation of geologic mappers, whose future is bright, given the need for new geologic maps throughout the country.

Despite its accomplishments, the program needs a substantial increase in funding to accomplish its mission "to provide accurate geologic maps and three-dimensional framework models that help to sustain and improve the quality of life and economic viability of the Nation through understanding ground-water availability and quality, supporting DOI land management decisions, mitigating hazards, assisting in ecological and climatic monitoring and modeling, and understanding onshore-offshore sediment processes." The FAC recommends that program funding be boosted by at least $10 million per year to keep pace with the demand for new geologic maps and digital, geographic information system versions of previously published geologic maps. Because geologic maps are used to understand and mitigate against natural hazards (including floods, earthquakes, landslides, tsunamis, volcanoes, etc.), it would be appropriate that new funds provided for the USGS hazards initiative be shared with NCGMP.

The FAC is pleased that the USGS is responding to its previous recommendations. The FAC has additional recommendations intended to enhance the EDMAP, STATEMAP, and FEDMAP components of the program.

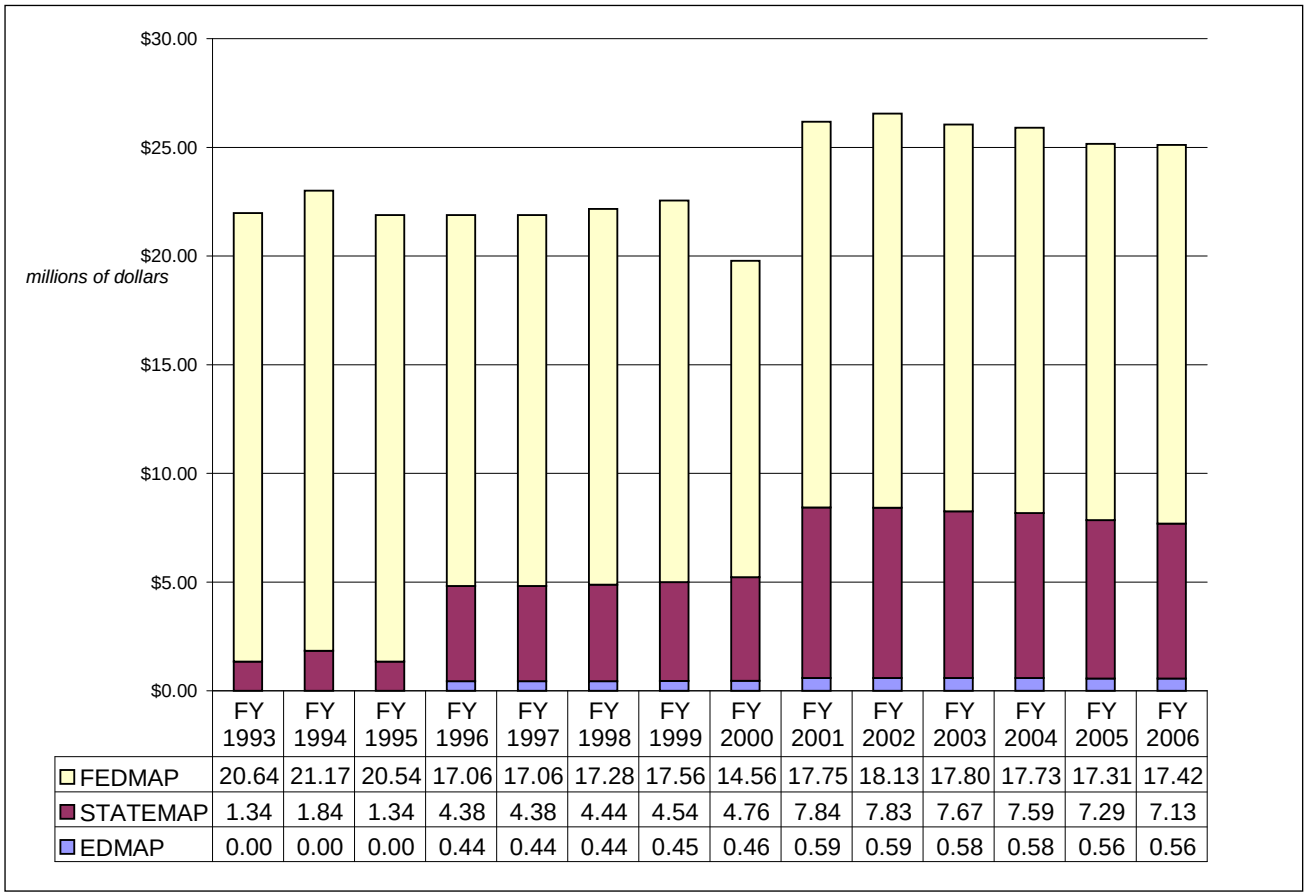
Introduction

As mandated by the National Geologic Mapping Act (NGMA) of 1992 (Public Law 102-285), and its reauthorizations of 1997 and 1999 (Public Laws 105-36 and 106-148, respectively), the Federal Advisory Committee (FAC) for the National Cooperative Geologic Mapping Program (NCGMP) is required to submit an annual report to the Secretary of the Interior that evaluates progress made toward fulfilling the Federal, State, and Educational components of the NGMA. This document fulfills this requirement for 2006.

The NCGMP contains three components: FEDMAP, to meet Federal priorities for geologic maps and basic geologic information about the country; STATEMAP, to meet State needs in a cost-sharing partnership between the USGS and State geological surveys; and EDMAP, to train the next generation of geologic mappers in a cost-sharing partnership between the USGS and colleges and universities in the United States. The program has grown over the years, although funding has been well below Congressionally authorized levels.

FY 1999 - $28,000,000
FY 2000 - $30,000,000
FY 2001 -$37,000,000
FY 2002 -$43,000,000
FY 2003 - $50,000,000
FY 2004 - $57,000,000
FY 2005 - $64,000,000

Congressionally Authorized Funding for NCGMP



	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006
FEDMAP	20.64	21.17	20.54	17.06	17.06	17.28	17.56	14.56	17.75	18.13	17.80	17.73	17.31	17.42
STATEMAP	1.34	1.84	1.34	4.38	4.38	4.44	4.54	4.76	7.84	7.83	7.67	7.59	7.29	7.13
EDMAP	0.00	0.00	0.00	0.44	0.44	0.44	0.45	0.46	0.59	0.59	0.58	0.58	0.56	0.56

Actual Funding for NCGMP

Reauthorization of the NCGMP is currently under consideration by both houses of Congress.

Major Activities of the Federal Advisory Committee in 2006

The NCGMP Federal Advisory Committee met on June 12-13, 2006 at the Department of the Interior in Washington, DC and on October 11-12, 2006 at the USGS Headquarters in Reston, Virginia. Members of the FAC who were present included: P. Patrick Leahy (USGS Associate Director for Geology and Chair of the Federal Advisory Committee – October), Linda Gundersen (USGS Acting Associate Director for Geology and Acting Chair – June), A. Roger Anzzolin (U.S. EPA), Robert D. Hatcher, Jr. (Distinguished Scientist and Professor, University of Tennessee - October), Carla A. Kertis (USDA-Natural Resources Conservation Service), Peter T. Lyttle (NCGMP Program Coordinator), Jonathan G. Price (State Geologist of Nevada), James M. Robertson (State Geologist of Wisconsin – October), and Robert J. Silva (U.S. Department of Energy). Gene Whitney (Office Science and Technology Policy, OSTP – June), William J. Siok (American Institute of Professional Geologists), Randall C. Orndorff, and Laurel M. Bybell (NCGMP Associate Program Coordinators), David R. Soller (Head of National Geologic Map Database) ,Tammy Dickinson (USGS National Geological and Geophysical Data Preservation Program Coordinator – October), Deborah McCray-Skinner (USGS Program Analyst - June), Arthur Merschat (Ph.D. candidate at the University of Tennessee - October), Richard W. Harrison (USGS - October), and John C. Steinmetz (State Geologist of Indiana and Chair of the NCGMP FAC subcommittee on the National Geological and Geophysical Data Preservation Program – June) also attended.

Individual members of the FAC reviewed the USGS's July 2006 draft of the NCGMP's program plan for 2007 to 2011 and provided suggestions for revision to the USGS. The plan is being released in 2007.

The charge to the FAC has expanded to include responsibilities articulated in the Energy Policy Act of 2005 for oversight of a National Geological and Geophysical Data Preservation Program. A subcommittee (chaired by John Steinmetz of the Indiana Geological Survey) was formed to draft an implementation plan for the data-preservation program. The report of the subcommittee has been signed by the Secretary of Interior, is posted on the USGS Web site at http://energy.usgs.gov/PDFs/2006DataPreservation.pdf, and has been submitted to Congress. As part of the implementation plan, the USGS is conducting a survey of sample and data holdings by State geological surveys. Tammy Dickinson reported that items most needed at this time for the new data-preservation program include (1) designing the process for the financial and technical assistance program, (2) developing the structure and content of the national digital catalog of information, (3) finishing the inventory of holdings of State surveys, and (4) producing minimum standards and sets of best practices for data preservation. The inventory will help justify funding up to the level of authorization of the data-preservation program ($30 million per year).

At its October meeting, the FAC met with an external review panel from the American Association for the Advancement of Science (AAAS) Research Competitiveness Service. This panel reviewed management and operation of the NCGMP, as recommended by the Office of Management and Budget as part of its Program Assessment Rating Tool (PART) review in 2005. The panel, which was chaired by George M. Hornberger (Professor in the Department of Environmental Sciences at the University of Virginia) and included Kenneth J. Jackson (Deputy Director for Science and

Technology, Lawrence Livermore National Laboratory), Leonard Krishtalka (Director of the Biodiversity Institute and Professor, Department of Ecology, University of Kansas), Frederick V. Pieper (Director, Application Development and Data Management, Institute for Application of Geospatial Technology, Auburn, New York), William H. Prescott (President, UNAVCO, Boulder, Colorado), and T.H. Lee Williams (Vice President for Research and Dean of the Graduate College, University of Oklahoma), had the following charge:

- Assess integration of geologic information to facilitate analysis and decision-making.
- Recommend policy changes to improve science and evaluation techniques within the program.
- Evaluate the role the program should take in producing derivative products to meet the needs of society.

The panel's report was received in early 2007, and can be found on the NCGMP Web site at http://ncgmp.usgs.gov/ncgmpabout/progevaluation/aaasreview/aaas2006finalreport.

Review of Recommendations from 2005 FAC report

Progress was made by the program on several of the recommendations made by the FAC in its report for 2005. Those recommendations are listed below in italics, followed by statements of progress.

1. The FAC recommends that funding for the NCGMP be boosted by at least $10 million per year to help keep up with the demand for new geologic maps and digital, geographic information system versions of previously published geologic maps. Because geologic maps are vital to risk reduction from natural hazards (including floods, earthquakes, landslides, tsunamis, volcanoes, etc.), part or all of this funding could come from the USGS's initiative in hazards.

There was a modest decrease in funding for the NCGMP between 2005 and 2006 due to rescissions.

2. The FAC recommends that each map resulting from an EDMAP project be reviewed in the field, if possible, and in the office by competent geologists before the map is submitted to the USGS and that each map produced from an EDMAP project be made available to the public. The proposal for an EDMAP project should include the planned procedures for this review for publication. Geologists from the relevant State geological survey and the USGS should be invited to participate in the field and office reviews, which should be organized by the professor overseeing the EDMAP project. The professor should make arrangements for the maps to be released to the public through the State geological survey, the USGS, or some other means (such as in a peer-reviewed publication or in a thesis or dissertation that is readily available to the public).

As part of the request for proposals, the USGS now requests that applicants demonstrate their willingness to seek external review of maps produced by EDMAP projects. The NCGMP will soon be posting EDMAP deliverables on the USGS Web site that are agreed upon by both the applicant and the USGS.

3. The FAC recommends that if funding for the NCGMP increases, the maximum amount of award to each EDMAP project also be increased to a maximum of $25,000 per year.

The USGS has discussed this matter with the EDMAP peer-review panel and at various town-hall meetings throughout the country as part of the national and section meetings of the Geological Society of America. The academic community would prefer to limit the funds to $15,000 per year, with the potential to support a larger number of students, rather than raise the limit at the expense of funding fewer students.

4. The FAC recommends that the USGS undertake a survey of employers of geologists to assess the need for geologic mappers. This information will be useful in setting goals for EDMAP funding in future authorizations of the program. The survey should include employers who produce geologic maps for the public as well as those who create geologic maps for internal use.

The program thinks that the idea of conducting a survey of employers of geologists is an excellent idea. As a first step, the program has met with Chris Keane at the American Geological Institute (AGI) to explore the possibility of having AGI conduct the survey, or at a minimum, provide us with a pool of recipients for the survey.

5. The FAC recommends that the USGS institute a policy of releasing preliminary geologic maps produced from FEDMAP projects as USGS Open-File Reports, and that each FEDMAP funded geologist, after the end of their second year of FEDMAP funding, be required to submit an annual open-file report.

Under the current USGS publication policy, interim products, such as preliminary geologic maps, do not qualify for release as USGS Open-File Reports. However, preliminary geologic maps frequently are created by project members as part of the development process, and these often are sent to NCGMP Program Coordinators. The program is considering making this a more formal effort.

Recommendations in 2006

1. Reauthorization and Funding for the NCGMP. The FAC recommends that reauthorization of the NCGMP be a high priority for the Department of Interior, not only because the program products contribute to the public good but also because they are in great demand by other bureaus within the Department. Funding for the program should be increased from its current level of $25.113 million to at least $35 million per year. The USGS hazards initiative is a logical and easily justifiable source of new funds for this $10 million addition to the NCGMP.

2. Legacy Products. For the purposes of this program, legacy work includes geologic maps that are incomplete but where most or all of the data have been collected and assembled. The FAC recommends that the USGS develop guidelines for inclusion of unpublished geologic maps as items in the National Geologic Map Database. In some cases, this may mean release of draft copies of maps (for public review); in other cases this may mean providing funding to complete USGS maps that are almost finished. The FAC recommends that such legacy products be given high priority, as the cost for completing such maps is likely to be considerably less than the cost to create an entirely new map. The USGS should set priorities for which maps to complete first based on national needs that includes priorities of other agencies within the Department of Interior. The FAC is encouraged by the newly reestablished Bradley Scholar Program for the Scientists Emeriti, which is providing some funding for completion of legacy geologic maps. The FAC recognizes that USGS geologic

mappers work not only for the Earth Surface Processes Teams, whose funding comes primarily from the NCGMP, but also for USGS programs in Minerals, Energy, and Hazards (volcanoes, earthquakes, landslides), and other programs. The FAC recommends that the geologists in these other programs be included in the effort to dramatically increase the rate of publication of legacy maps.

3. Release of EDMAP Products. The FAC recommends that the USGS continue to move forward in the process to allow unpublished EDMAP products to be released through the National Geologic Mapping Database. The USGS has agreed to do this, and David Soller will design a web-based form for use by professors and their graduate students in submitting a PDF or similar printable and viewable versions of their maps.

4. Additional EDMAP Recommendations. On the basis of dialogue between the USGS and the academic community, the FAC recommends that the cap for EDMAP funding be kept at $15,000 until funding for the NCGMP is raised significantly. The short-term goal is to raise the cap to $20,000 per student and to increase the number of students funded through EDMAP. The FAC reiterates its 2005 recommendation that the USGS undertake a survey of employers of geologists to assess the need for geologic mappers. This information will be useful in setting goals for EDMAP funding in future authorizations of the program. The survey should include employers who produce geologic maps for the public, as well as those who create geologic maps for internal use. The FAC recommends that the USGS investigate working with the American Geological Institute, which has a long history of employment surveys in the geosciences, in this effort. The FAC recommends that the USGS investigate ways to encourage EDMAP students to have projects in the Caribbean where new earthquake monitoring equipment will be or is being installed as part of the USGS hazards (tsunami and earthquake) program.

5. Populating the National Geologic Map Database. The FAC recommends that the USGS encourage non-governmental organizations, including private companies and scientific societies that have geologic maps for sale, to submit information on their maps to the National Geologic Map Database.

6. Prioritization of Funding for the National Geological and Geophysical Data Preservation Program. The FAC recommends that the USGS seek its advice in setting annual priorities for the data-preservation program. The USGS should engage geologists in the user community, perhaps at annual meetings of the leading societies whose members use geologic maps (Geological Society of America, American Association of Petroleum Geologists, American Institute of Professional Geologists, Society of Economic Geologists, Association of Environmental and Engineering Geologists). The FAC further recommends that a peer-review process be used for the selection of specific projects in both the internal and external components of the data-preservation program.

7. Operation of the Federal Advisory Committee. The Federal Advisory Committee requests that the USGS fund at least two meetings of the FAC per year. Each meeting should contain components of both the National Cooperative Geologic Mapping Program and the National Geological and Geophysical Data Preservation Program. A review of metrics for the programs should be included annually to assist the FAC in reporting on progress of the programs. The USGS should include dialogue between the FAC and USGS geologic mappers, STATEMAP geologic mappers, and EDMAP professors and students on the agendas of some of its meetings each year.

The FAC recommends that the USGS activate the two task forces mentioned in the 2005 report. First, a Task Force on Education and Awareness Issues should be charged with drafting

recommendations for better ways of communicating the benefits of geologic mapping and the National Cooperative Geologic Mapping Program and for assisting non-geologist users of geologic maps. Second, a Task Force on Legacy Maps should be charged with drafting recommendations for ways to rapidly publish maps for which field work has been entirely or partially completed but have not been through the peer review process for formal publication. These task forces may need to be creative in avoiding problems of giving the impression that these products carry the seal of approval of the USGS or State geological surveys.

8. Rotation of Membership on the Federal Advisory Committee. The FAC recommends the following regarding future membership and terms of office.

1. In general, all members of the FAC, except for those USGS representatives whose positions on the FAC are defined as their administrative roles within the USGS, should be limited to five-year terms.
2. To encourage independence and high-quality representatives, the industry and academic representatives should be recommended by non-governmental organizations:
    a. The Executive Committee of the American Institute of Professional Geologists will be asked to recommend representatives from private industry.
    b. The Council of the Geological Society of America will be asked to recommend representatives from academia.
3. For all Federal agency members, the USGS Director will ask Directors/Chiefs of the agencies for recommendations.
4. The Act already calls for the Association of American State Geologists to choose two State representatives.

**********END**********

CORRESPONDENCE BRIEF

Accession # 2007
Date:

SUBJECT: Transmittal of 2006 Report from the National Cooperative Geologic Mapping Program (NCGMP) Federal Advisory Committee to the Secretary of the Interior.

BACKGROUND: The National Geologic Mapping Act of 1992, reauthorized in 1999 as Public Law 106-148, established the NCGMP within the U.S. Geological Survey (USGS). The National Geologic Mapping Act (NGMA) requires that a geologic mapping Federal advisory committee (FAC) be established to advise the Director of the USGS on the planning and implementation of the NCGMP and that progress on the program be reported annually to the Secretary of the Interior. The FAC, composed of nationally recognized experts from State geological surveys, academia, the private sector, and Federal agencies met on June 12-13 and October 11-12, 2006. The attached report and recommendations are from those meetings and fulfill the reporting requirements spelled out in the NGMA.

SUMMARY OF CORRESPONDENCE: A Report of the Federal Advisory Committee is transmitted in accordance with the NGMA.

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Reviewed and approved by:

Linda Gundersen
Acting Associate Director of Geology
703-648-6600

MEMORANDUM

To: Secretary

Through: Assistant Secretary – Water and Science

From: Mark Myers
Director, U.S. Geological Survey

Subject: Transmittal of the 2006 Report from the National Cooperative Geologic Mapping Program Federal Advisory Committee to the Secretary of the Interior

As required by the National Geologic Mapping Reauthorization Act of 1999 (P.L. 106-148), attached is the report from the Federal Advisory Committee (FAC) for the National Cooperative Geologic Mapping Program. The FAC is composed of nationally recognized experts from State geological surveys, academia, the private sector, and Federal agencies. The FAC met on June 12-13 and October 11-12, 2006, to evaluate the progress made towards fulfilling the Federal, State, and educational components of the National Geologic Mapping Act (NGMA).

The FAC determined that all components of the program have been fully implemented and that all partners are fulfilling their responsibilities under the NGMA. Efforts made through the National Cooperative Geologic Mapping Program (NCGMP) have increased the effectiveness of geologic mapping and have delivered geologic map information for solving Earth science problems that are critical to public safety, and for balancing decisions on resource, environmental, and land-use issues.

This report of the FAC has not been reviewed or cleared by the Office of Management and Budget. Therefore, it does not necessarily reflect the views of the Administration at this time.

Attachment

Official File - 908

cc: Sec Surname
ES
AS/WS
CL/WS
OCL
Dir File - MS 114
Dir Chron (4) - MS 114
Official File - MS 908
AD/Geology Chron - MS 911

USGS:GD:LBybell/5281:kv:Ext. 4507:ACCN #2007