

2000 final

Biennial Report of the Secretary of the Interior

on the

**U.S. Geological Survey
National Cooperative Geologic Mapping Program's
Progress towards the
National Geologic Mapping Act.**

**Presented to the
Committee on Energy and Natural Resources, United States Senate**

and to the

Committee on Resources of the United States House of Representatives

2000

Introduction

The Secretary of the Department of the Interior, acting through the Director of the U.S. Geological Survey (USGS), is required by the National Geologic Mapping Act (P.L. 102-285 and 106-148) to submit this biennial report to the Committee on Energy and Natural Resources of the United States Senate and to the Committee on Resources of the House of Representatives. As required by the Act, this report addresses how the USGS and the Association of American State Geologists (AASG) establish joint goals, mapping priorities, target dates for implementation of the program, and how long-term staffing affects successful implementation of the program.

This report also responds to the findings and recommendations of the Biennial Report of the Federal Advisory Committee (the Committee) of the National Cooperative Geologic Mapping Program (NCGMP) for the year 2000.

Coordination of the National Cooperative Geologic Mapping Program

The USGS and the AASG are partners in the development of the NCGMP under the provisions of the National Geologic Mapping Act (NGMA). Development of the Program is led by the Director of the USGS, acting through the USGS Associate Director for Geology, who serves as Chair of the Program's Federal Advisory Committee, and through the NCGMP Coordinator and Executive Secretary of the Committee. These USGS officials coordinate program development with the President and the Executive Committee of the AASG and with other Federal, State, and Academic partners. In addition, the Chief of the USGS Geologic Map Database Project and the Chair of the AASG Database Committee coordinate development of the National Geologic Map Database.

These individuals have worked with the program's multi-sector Committee to implement the program, to prepare a long-term strategic plan and to review and recommend language for the 1997 and 1999 Reauthorization Bills for the NGMA. The Committee also serves to review program activities and to advise on future priorities for geologic mapping within each of the program sub-components.

In addition, the USGS and the AASG hold meetings and workshops during each year in which pertinent geologic mapping activities of the States and USGS are discussed and coordinated. In recent years, program managers have worked with the AASG on: the status and future directions of the program; implementation of recommendations of the Federal Advisory Committee; implementation of the National Geologic Map Database project; and priorities for the matching-fund grants program components. Regional "cluster" meetings between the AASG and USGS serve as additional opportunities to coordinate geologic mapping priorities and activities at the project level. In addition, the USGS and AASG hold biennial liaison meetings every fall and spring in which members of the AASG Executive and Liaison committees meet with USGS managers to discuss issues of mutual interest, with other Federal agencies in the Washington, D.C. area, and with their congressional delegations.

This degree of coordination and shared participation under the NGMA has resulted in an unusually strong and productive Federal-State-university partnership in geologic mapping. Since the authorization of the program in 1992 more than 7000 new geologic maps have been produced for high priority areas to "address multiple needs, such as assessing energy, mineral and water resources, reducing risk and losses from earthquakes, landslides and ground failure, floods, coastal erosion, and volcanic eruptions and optimizing economic and environmental benefits to society." In addition, more than 22 million dollars in State matching funds has been leveraged with Federal dollars for geologic mapping.

Goals, Priority Setting, and Target Dates for Implementation

The NCGMP represents nearly a decade of successful cooperation among Federal, State and university partners striving to deliver modern digital geologic maps to the communities that need them. Each of these three partners has a distinctive role, yet all work cooperatively to determine the areas of highest priority for new geologic mapping. In Fiscal Year (FY) 2000, more than 150 geologic mapping projects were underway in 44 States through the program's matching-fund STATEMAP component. In FY 2000, 74 university students at 40 schools in 26 States, the District of Columbia, and Puerto Rico were being trained as a future generation of geologic mappers through the matching-fund EDMAP component. Also in FY 2000, 21 large, multi-year, Federal geologic mapping projects addressed issues that cross jurisdictional boundaries or involve Federal lands, as well as developed new applications for geologic mapping, and continued construction of the Internet-based National Geologic Map Database. Priorities for all projects are established to be consistent with the NGMA and to respond to advice from the multi-sector Committee. A unique strength of this Federal-State-university partnership program is the use of State mapping advisory committees in each State to set State priorities for geologic mapping and by the use of national review panels for each program component to integrate these into the overall cooperative program. The State mapping

advisory committees consist of representatives from the private industry, geotechnical consultants, State and county officials, university professors, and others. Currently, more than 550 individuals offer their time to prioritize the geologic mapping needs in 44 States. These committees determine the highest priority needs for geologic mapping in each State on an annual basis, and the resulting priorities are reflected in the matching-fund grant proposals to the USGS. Funding levels for these grants are determined by a joint AASG-USGS awards panel, which evaluates the merit of individual proposals and reviews past performance, and establishes funding levels for grants. A similar national review and prioritization process is used by the academic-USGS-AASG awards panel for matching funds grants to universities and by the national review panel for Federal mapping. The latter employs representatives from the USGS, AASG, industry, and other Federal agencies.

Target dates for implementation of the NCGMP are established through NGMA, and its reauthorization in 1997 and 1999. In the latter reauthorization (Public Law 106-148), the program was authorized for the period extending from FY 2000 to 2006. In the latest reauthorization, the Federal-State partnership was strengthened through an increase in new funding for the grants program to the States and through a closer linkage of geologic mapping priorities. Both the Administration and the Congress supported increasing the authorized funding levels each year, reaching a total authorization level of \$64 million for the year 2005.

Long-Term Staffing

One of the most important issues in the future will be for the Nation to maintain adequate expertise in geologic mapping to meet an increasing demand. Commensurate with an increase in specialization and laboratory science, geology departments at most universities in the United States have decreased their field geology programs and training in geologic mapping. To ensure that training in geologic mapping continues, the NGMA created a matching-fund grants program with the Nation's universities. Funded at only 2 percent of NCGMP funds, this program provides limited support (mainly field expenses) for well-mentored geologic mapping as a component of graduate and undergraduate thesis work. Since this program component was put in place in 1995, it has supported more than 240 students at more than 60 universities.

Response to Recommendations of the Federal Advisory Committee

The 2000 biennial report of the multi-sector Committee to the NCGMP makes the following recommendations:

- The Committee recommends that the NCGMP continue to focus on multi-purpose geologic mapping and that geologic maps be increasingly made available and accessible in standardized digital forms.
- The Committee recommends that the Secretary of the Interior, working through the Director of the USGS, should seek to retain the budget increase (+\$6,457,000) allocated by Congress in FY 2001 for NCGMP, that this program continue to be included in funding initiatives, and that the Administration seek additional

funding for the NCGMP for new geologic mapping in support of ground-water resource issues and for the modernization of the Nation's highest priority maps.