

Federal Advisory Committee

for the

U.S. Geological Survey National Cooperative Geologic Mapping Program

Biennial Report to the Secretary of the Interior - 2000

Introduction

The Federal Advisory Committee for the National Cooperative Geologic Mapping Program (the Committee) met on October 31-November 1, 2000, to evaluate progress made towards fulfilling the Federal, State, and Educational components of the National Geologic Mapping Act (NGMA). As mandated by the NGMA, a biennial report must be submitted to the Secretary of the Interior summarizing the Committee's discussions. This document is the year 2000 biennial report of the Committee.

The Secretary of the Interior, acting through the Director of the U.S. Geological Survey, (USGS) is required by the NGMA to prepare a separate 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. The Secretary's report will respond to the recommendations of the Committee and will address coordination, prioritization, and other aspects of the National Cooperative Geologic Mapping Program (NCGMP), as required by the NGMA.

Progress of the National Cooperative Geologic Mapping Program

The NCGMP was created by the NGMA to focus resources of the Federal, State, and the university communities on the production of new geologic maps. A geologic map records the distribution of rock and soil materials at and near the land surface and is one of the most widely used scientific products available to record and display information that government agencies and private industry need to identify and protect valuable resources and make wise use of land. Modern digital geologic maps constitute a fundamental and objective scientific foundation on which land-use, water-use, and living-resource-use decisions can and should be based.

The 102nd Congress recognized that the USGS and the State Geological surveys need a coordinated program to prioritize the geologic mapping requirements of the Nation and to increase production of geologic maps to meet increasing public demand. The National Geologic Mapping Act (Public Law 102-285) was signed into law in 1992 and created the NCGMP. Congress, in recognition of the success of the Program, reauthorized the Act in 1997 and 1999 (Public Laws 105-36 and 106-148, respectively). In the 1999 reauthorization, both the Administration and the Congress supported doubling the authorized funding levels to reach the Federal funding target of \$64 million by the year 2005.

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Since the passage of the NGMA in 1992, the NCGMP and its State and university partners have produced more than 7,000 new geologic maps. The States and universities have provided more than 25 million in matching funds, and the proportion of the State and university share of the program was increased to match 50 percent% of new Federal funds appropriated under the 1999 reauthorization of the program. These maps are primarily geologic quadrangle maps at the scale of 1:24,000, which is the standard working scale in the lower 48 States and Hawaii. Alaska, because of its size and available topographic maps, requires a smaller geologic mapping scale of 1:63,360. A standard 1:24,000 scale map in the United States covers approximately 9 miles in north-south dimension and 6 miles in east-west dimension. Unfortunately, modern geologic coverage at the standard working scale is far from complete and approximately 50,000 1:24,000-scale quadrangles remain to be mapped in the lower 48-States alone. In fact, less than 25% of the nation's 50,000 quadrangles have geologic maps and there is no 1:24,000-scale coverage of Alaska. At the current production rate, it would take more than 50 years to complete a first-pass coverage of geologic mapping for the lower 48 States. In spite of the relatively sparse coverage, the use of information from geologic maps by Federal land managers, States, and local municipalities is increasing. New maps for high-priority areas are needed to address issues associated with expanding urban and urban-fringe areas to address critical questions on rural agricultural and Federal lands, and to update and modernize older geologic map information.

The NCGMP represents nearly a decade of successful cooperation among Federal, State and university partners striving to deliver modern geologic maps to the clients who need them. Each of these three partners has a unique 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 through the FEDMAP component, 21 large multi-year 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 National Geologic Map Database on the Internet. The NCGMP benefits from the advice of the multi-sector Federal Advisory Committee, from broad-based State mapping advisory committees in every State, and from national review panels that evaluate mapping projects in each program component. The State mapping advisory committees consist of representatives from 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.

Findings and Recommendations of the Committee

- The Committee finds that all components of the Geologic Mapping Program have been implemented. Accordingly, the Committee finds that the Secretary of the Interior and the USGS, as well as the Association of American State Geologists and the university community, are fulfilling their responsibilities under the NGMA.

- The Committee recommends that geologic maps produced through the NCGMP continue 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, the Committee recommends that these geologic maps should be made increasingly available and accessible in standardized digital formats.
- The Committee finds that even with increased funding in the FY 2001 budget (now totaling \$26,180,276), funds for geologic mapping still fall well below the FY 2001 authorization level of 43 million as stipulated in the 1999 Reauthorization of the NGMA. Authorized funding levels in the NGMA are based on available State and university matching funds, and appropriated Federal resources remain inadequate for matching the State funds and to meet the broad-based need for modern geologic maps. The Committee recommends that the Secretary, working through the Director of the USGS, continue to request increases in funding for geologic mapping to achieve the authorized levels as specified in the NGMA. To reach this level and to better leverage Federal funds with available State and university funds, the Committee recommends that the NCGMP be a component of future USGS and Interior Department budget initiatives, as was the case in FY 2001.
- The Committee recognizes major contributions that NCGMP will make in the next 2 years in support of funding initiatives based on priorities such as improved information on ground-water resources and modernization of maps for the Nation. For example, the States have recently identified another \$3,400,000 in matching funding for geologic mapping that could be used primarily to address ground-water resources in FY 2002. The Committee urges the Secretary to seek \$6,800,000 in new Federal funding for NCGMP to match this new State contribution.
- The Committee also urges the Secretary to seek at least \$10,000,000 in new Federal funds through the NCGMP as part of a broad initiative to update and modernize the Nation's highest priority geologic and topographic maps. The Committee recommends that geologic mapping priorities, as defined through the NCGMP and its multi-sector State mapping advisory committees, be used as a primary criterion for prioritizing the updating and modernizing of USGS topographic and elevation data sets. Together, these proposed budget increases would bring funding for geologic mapping to the authorized level of \$43,000,000 for FY 2002 as stipulated in P.L. 106-148.