104TH CONGRESS, 2d Session | HOUSE OF REPRESENTATIVES | REPORT 104–668

NATIONAL GEOLOGIC MAPPING REAUTHORIZATION ACT OF 1996

JULY 11, 1996.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

Mr. YOUNG of Alaska, from the Committee on Resources, submitted the following

R E P O R T

[To accompany H.R. 3198]

[Including cost estimate of the Congressional Budget Office]

The Committee on Resources, to whom was referred the bill (H.R. 3198) to reauthorize and amend the National Geologic Mapping Act of 1992, and for other purposes, having considered the same, report favorably thereon without amendment and recommend that the bill do pass.

PURPOSE OF THE BILL

The purpose of H.R. 3198 is to reauthorize appropriations for the National Geologic Mapping Act of 1992, which will expire at the end of fiscal year 1996.

BACKGROUND AND NEED FOR LEGISLATION

The National Geologic Mapping Act (NGMA) of 1992 (Public Law 102–285; 43 United States Code 31a–h) was the legislative response to concerns of the National Academy of Sciences as to the inadequacy of basic geologic mapping efforts in the country. Then Chairman of the Subcommittee on Mining and Natural Resources, Nick J. Rahall, sponsored H.R. 2763, which became the NGMA, establishing a cooperative program involving the U.S. Geological Survey (USGS), the geologic surveys of the 50 States and academia to pursue an expanded geologic mapping effort of bedrock and surficial terranes.

Detailed geologic mapping provides basic information for solving a broad range of societal problems. These include the delineation and protection of sources of safe drinking water, environmental

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system understanding, and foundations of ecosystems management; identification and mitigation of natural hazards, such as earthquake-prone areas, volcanic eruptions, landslides and other ground failures, and many other land-use planning requirements; and assessment of coal, petroleum and natural gas, construction materials, metals, and other natural resources.

Only about one-fifth of the Nation is mapped at a scale adequate to meet these needs. Reauthorization of the NGMA will allow Federal, State and academic interests to continue to address these needs cooperatively. The critical areas have been identified at the State level by State-map advisory committees. These critical areas include Federal, State, and local priorities.

Since its establishment in 1879, the USGS has been charged with "classification of the public lands and examination of the geological structure, mineral resources and products of the national domain." While generally receiving good marks for its geologic mapping efforts for over a century, the National Academy of Sciences in a 1988 report recognized that the USGS alone lacked the manpower to overcome this deficiency. Traditionally, colleges and universities as well as the various State geologic surveys have contributed to the mix of geologic maps produced, albeit not always in a coordinated manner. The NGMA provides a cooperative framework to attempt to meet the Nation's geologic map data needs efficiently.

Funding for the program is incorporated in the budget of the U.S. Geological Survey. State geological surveys and university participants receive funding from the program through a competitive proposal process that requires 50:50 matching funds from the applicant, ensuring the value of each proposal is weighed against its cost in Federal and State appropriated funds. Since fiscal year 1993, approximately $7.5 million of Federal appropriated funds have been matched by State monies in the cooperative, peer-reviewed program for geologic map products produced by the 50 State geological surveys, about 15 percent of the total Federal appropriation over the same interval for geologic mapping program efforts in total.

COMMITTEE ACTION

On March 29, 1996, Congressman Ken Calvert (R–CA) introduced H.R. 3198 to reauthorize and make other minor amendments to the National Geologic Mapping Act of 1992. The bill was referred to the Committee on Resources, and within the Committee to the Subcommittee on Energy and Mineral Resources.

On April 23, 1996, the Subcommittee on Energy and Mineral Resources held a legislative hearing on H.R. 3198. The Chief Geologist of the USGS, Dr. P. Patrick Leahy, testified in strong support of the bill, as did Dr. Earl Bennett, State Geologist and Director of the Idaho Bureau of Mines and Geology, on behalf of the Association of American State Geologists. Dr. Robert Hatcher of the University of Tennessee-Knoxville, representing academic interests and the American Geological Institute, also testified in strong support of the bill. Other witnesses included Ms. Martha Blair Tyler, a land-use planner with special expertise in landslide and seismic hazards mapping needs, and Dr. James Stribling of Tetra Tech,

Inc., a biologist familiar with geologic maps as a beginning step in ecosystems analysis.

On June 19, 1996, H.R. 3198 was discharged from further consideration of the Subcommittee on Energy and Mineral Resources for consideration by the Full Committee on Resources. No amendments were offered, the bill was adopted and ordered favorably reported to the House of Representatives by voice vote.

SECTION-BY-SECTION ANALYSIS

SECTION 1. SHORT TITLE.

The bill may be cited as the "National Geologic Mapping Reauthorization Act of 1996."

SECTION 2. FINDINGS

This section of the bill provides Congressional findings about the national need for geologic mapping performed in a comprehensive and cooperative manner.

SECTION 3. REAUTHORIZATION AND AMENDMENT

Section 3 reauthorizes and amends the expiring NGMA. The Federal/State/academia cooperative elements of the original Act are retained with minor amendments in definitions. The bill also establishes an advisory committee to the USGS Director on planning and implementation of the geologic mapping program, corrects references to the Committee on Resources in an annual report to the Committee, and authorizes appropriations for funding the cooperative geologic mapping program of the USGS and allocates funds between the Federal, State and education components of the program for the next four fiscal years.

COMMITTEE OVERSIGHT FINDINGS AND RECOMMENDATIONS

With respect to the requirements of clause 2(l)(3) of rule XI of the Rules of the House of Representatives, and clause 2(b)(1) of rule X of the Rules of the House of Representatives, the Committee on Resources' oversight findings and recommendations are reflected in the body of this report.

INFLATIONARY IMPACT STATEMENT

Pursuant to clause 2(l)(4) of rule XI of the Rules of the House of Representatives, the Committee estimates that the enactment of H.R. 3198 will have no significant inflationary impact on prices and costs in the operation of the national economy.

COST OF THE LEGISLATION

Clause 7(a) of rule XIII of the Rules of the House of Representatives requires an estimate and a comparison by the Committee of the costs which would be incurred in carrying out H.R. 3198. However, clause 7(d) of that Rule provides that this requirement does not apply when the Committee has included in its report a timely submitted cost estimate of the bill prepared by the Director of the

Congressional Budget Office under section 403 of the Congressional Budget Act of 1974.

COMPLIANCE WITH HOUSE RULE XI

1. With respect to the requirement of clause 2(l)(3)(B) of rule XI of the Rules of the House of Representatives and section 308(a) of the Congressional Budget Act of 1974, H.R. 3198 does not contain any new budget authority, credit authority, or an increase or decrease in revenues or tax expenditures. The bill authorizes discretionary spending of $108 million over 1997–2002.

2. With respect to the requirement of clause 2(l)(3)(D) of rule XI of the Rules of the House of Representatives, the Committee has received no report of oversight findings and recommendations from the Committee on Government Reform and Oversight on the subject of H.R. 3198.

3. With respect to the requirement of clause 2(l)(3)(C) of rule XI of the Rules of the House of Representatives and section 403 of the Congressional Budget Act of 1974, the Committee has received the following cost estimate for H.R. 3198 from the Director of the Congressional Budget Office.

CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

U.S. CONGRESS,
CONGRESSIONAL BUDGET OFFICE,
Washington, DC, July 1, 1996.

Hon. DON YOUNG,
Chairman, Committee on Resources,
U.S. House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the enclosed cost estimate for H.R. 3198, the National Geologic Mapping Reauthorization Act of 1996.

Enacting H.R. 3198 would not affect direct spending or receipts. Therefore, pay-as-you-go procedures would not apply to the bill.

If you wish further details on this estimate, we will be pleased to provide them.

Sincerely,

JUNE E. O'NEIL, *Director.*

Enclosure.

CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

1. Bill number: H.R. 3198.

2. Bill title: National Geologic Mapping Reauthorization Act of 1996.

3. Bill status: As ordered reported by the House Committee on Resources on June 19, 1996.

4. Bill purpose: H.R. 3198 would reauthorize and amend the National Geologic Mapping Act of 1992, which established a cooperative program for geologic mapping between the United States Geological Survey (USGS), the state geologic surveys, and academia. The bill would authorize appropriations for fiscal years 1997 through 2000 for the geologic mapping program and would change the allocation of funds between the federal, state, and educational

components. Other provisions of the bill would make minor definitional changes in the 1992 act, change the size and membership of the advisory committee to the USGS Director on planning and implementation of the geologic mapping program, and codify an existing requirement that federal funding of geologic mapping education be matched on a one-to-one basis by nonfederal sources.

5. Estimated cost to the Federal Government: Assuming appropriation of the authorized amounts, CBO estimates that enacting the bill would result in additional discretionary spending of $108 million over the 1997–2001 period. The costs of the bill are shown in the following table.

[By fiscal years, in millions of dollars]

	1996	1997	1998	1999	2000	2001	2002
Spending under current law:							
Budget authority	22	.....	.....	.....	.....	.....	.....
Estimated outlays	22	1	.....	.....	.....	.....	.....
Proposed changes:							
Authorization level	.....	24	26	28	30	.....	.....
Estimated outlays	.....	23	26	28	30	1	.....
Spending under H.R. 3198:							
Authorization level [1]	22	24	26	28	30	.....	.....
Estimated outlays	22	24	26	28	30	1	.....

[1] The 1996 level is the amount appropriated for that year.

The costs of this bill fall within budget function 300.

6. Basis of estimate: For the purposes of this estimate, CBO assumes that all amounts authorized in the bill would be appropriated by the start of each fiscal year and that outlays would follow the historical spending patterns for the national geologic mapping program.

CBO estimates that other provisions in the bill would have no significant budgetary impact. For example, the bill would change the allocation of program funds so that increasing amounts are directed toward the state geological surveys. Based on information from USGS, however, CBO estimates that this change would not affect the rate at which funds are spent.

7. Pay-as-you-go considerations: None.

8. Estimated impact on State, local, and tribal governments: H.R. 3198 contains no intergovernmental mandates as defined in Public Law 104–4 and would impose no costs on state, local, or tribal governments. This bill would authorize appropriations for the national cooperative geologic mapping program, including about $22 million over the next four years for grants to states and about $2 million over that period for an education component, consisting of grants to colleges and universities. The state grant component would increase slightly over this period as a proportion of the total program. The bill also would codify the existing one-to-one matching requirement for the education component.

9. Estimated impact on the private sector: This bill contains no private-sector mandates as defined in Public Law 104–4.

10. Previous CBO estimate: None.

11. Estimate prepared by: Federal cost estimate: Gary Brown; State and local government impact: Majorie Miller; and Private-sector impact: Amy Downs.

12. Estimate approved by: Robert A Sunshine for Paul N. Van de Water, Assistant Director for Budget Analysis.

COMPLIANCE WITH PUBLIC LAW 104–4

H.R. 3198 contains no unfunded mandates.

CHANGES IN EXISTING LAW MADE BY THE BILL, AS REPORTED

In compliance with clause 3 of rule XIII of the Rules of the House of Representatives, changes in existing law made by the bill, as reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italic, existing law in which no change is proposed is shown in roman):

NATIONAL GEOLOGIC MAPPING ACT OF 1992

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SEC. 3. DEFINITIONS.

[As used in this Act:] *In this Act:*

(1) *ADVISORY COMMITTEE.*—The term "advisory committee" means the advisory committee established under section 5.

(2) ASSOCIATION.—The term "Association" means the Association of American State Geologists.

[(2)] *(3) DIRECTOR.*—The term "Director" means the Director of the United States Geological Survey.

[(3)] *(4) GEOLOGIC MAPPING PROGRAM.*—The term "geologic mapping program" means the National Cooperative Geologic Mapping Program established by section 4(a).

[(4)] *(5) SECRETARY.*—The term "Secretary" means the Secretary of the Interior.

[(5)] *(6) SURVEY.*—The term "Survey" means the United States Geological Survey.

SEC. 4. GEOLOGIC MAPPING PROGRAM.

[(a) ESTABLISHMENT.—There is established in the United States Geological Survey a National Cooperative Geologic Mapping Program. The geologic mapping program shall be developed in consultation with the advisory committee and shall be designed and administered to achieve the objectives set forth in subsection (c).]

(a) ESTABLISHMENT.—

(1) IN GENERAL.—There is established a national cooperative geologic mapping program between the United States Geological Survey and the State geological surveys, acting through the Association.

(2) DESIGN, DEVELOPMENT, AND ADMINISTRATION.—The cooperative geologic mapping program shall be—

(A) designed and administered to achieve the objectives set forth in subsection (c);

(B) developed in consultation with the advisory committee; and

(C) administered through the Survey.

(b) RESPONSIBILITIES OF [USGS] *THE SURVEY.*—

(1) *LEAD AGENCY.*—The Survey shall be the lead Federal agency responsible for planning, developing priorities, coordinating, and managing the geologic mapping program. In carry-

ing out this paragraph, the Secretary, acting through the Director, shall—

(A) develop a geologic mapping program implementation plan in accordance with section 6, which plan shall be submitted to the [Committee on Natural Resources] *Committee on Resources* of the House of Representatives and the Committee on Energy and Natural Resources of the Senate within 300 days after the [date of enactment of this Act] *date of enactment of the National Geologic Mapping Reauthorization Act of 1996*;

(B) appoint, with the advice and consultation of the [State geological surveys] *Association*, the advisory committee within 90 days after the [date of enactment of this Act] *date of enactment of the National Geologic Mapping Reauthorization Act of 1996* in accordance with section 5; and

(C) within 210 days after the [date of enactment of this Act] *date of enactment of the National Geologic Mapping Reauthorization Act of 1996*, submit a report to the Committee on Energy and Natural Resources of the United States Senate and to the [Committee on Natural Resources] *Committee on Resources* of the House of Representatives identifying—

(i) how the Survey *and the Association* will coordinate the development and implementation of the geologic mapping program;

(ii) how the Survey *and the Association* will establish goals, mapping priorities, and target dates for implementation of the geologic mapping program; *and*

(iii) how long-term staffing plans for the various components of the geologic mapping program will lead to successful implementation of the geologic mapping program[; and

[(iv) the degree to which geologic mapping activities traditionally funded by the Survey, including the use of commercially available aerial photography, geodesy, professional land surveying, photogrammetric mapping, cartography, photographic processing, and related services, can be contracted to professional private mapping firms.].

(2) *RESPONSIBILITIES OF THE SECRETARY*.—In addition to paragraph (1), the Secretary, acting through the Director, shall be responsible for developing, as soon as practicable—

(A) in cooperation with the [State geological surveys] *Association*, other Federal and State agencies, public and private sector organizations and academia, the geologic-map data base; and

(B) maps and mapping techniques which achieve the objectives specified in subsection (c).

(c) PROGRAM OBJECTIVES.—The objectives of the geologic mapping program shall include—

(1) determining the Nation's geologic framework through systematic development of geologic maps at scales appropriate to

the geologic setting and the perceived applications, such maps to be contributed to the national geologic map data base;

(2) development of a complementary national geophysical-map data base, geochemical-map data base, and a geochronologic and paleontologic data base that provide value-added descriptive and [interpretive] *interpretative* information to the geologic-map data base;

(3) application of cost-effective mapping techniques that assemble, produce, translate and disseminate geologic-map information and that render such information of greater application and benefit to the public; and

(4) development of public [awareness for] *awareness of* the role and application of geologic-map information to the resolution of national issues of land use management.

(d) PROGRAM COMPONENTS.—The geologic mapping program shall include the following components:

(1) *FEDERAL COMPONENT*.—A Federal geologic mapping component, whose objective shall be determining the geologic framework of areas determined to be vital to the economic, social, or scientific welfare of the Nation. Mapping priorities shall be based on—

(A) national requirements for geologic-map information in areas of multiple-issue need or areas of compelling single-issue need; and

(B) national requirements for geologic-map information in areas where mapping is required to solve critical earth-science problems.

(2) *SUPPORT COMPONENT*.—A geologic mapping support component, whose objective shall be providing interdisciplinary support for the Federal Geologic Mapping Component. Representative categories of interdisciplinary support shall include—

(A) establishment of a national geologic-map data base, established pursuant to section 7;

(B) studies that lead to the implementation of cost-effective digital methods for the acquisition, compilation, analysis, cartographic production, and dissemination of geologic-map information;

(C) paleontologic investigations that provide information critical to understanding the age and depositional environment of fossil-bearing geologic-map units, which investigations shall be contributed to a national paleontologic data base;

[(D) geochronologic and isotopic investigations that (i) provide radiometric age dates for geologic-map units and (ii) fingerprint the geothermometry, geobarometry, and alteration history of geologic-map units, which investigations shall be contributed to a national geochronologic data base;]

(D) geochronologic and isotopic investigations that—

(i) provide radiometric age dates for geologic-map units; and

(ii) fingerprint the geothermometry, geobarometry, and alteration history of geologic-map units,

which investigations shall be contributed to a national geochronologic data base;

(E) geophysical investigations that assist in delineating and mapping the physical characteristics and three-dimensional distribution of geologic materials and geologic structures, which investigations shall be contributed to a national geophysical-map data base; and

(F) geochemical investigations and analytical operations that characterize the major- and minor-element composition of geologic-map units, and that lead to the recognition of stable and anomalous geochemical signatures for geologic terrains, which investigations shall be contributed to a national geochemical-map data base.

(3) *STATE COMPONENT.*—A State geologic mapping component, whose objective shall be determining the geologic framework of areas that the State geological surveys determine to be vital to the economic, social, or scientific welfare of individual States. Mapping priorities shall be determined by multirepresentational State panels and shall be integrated with national priorities. Federal funding for the State component shall be matched on a one-to-one basis with non-Federal funds.

[(4) A geologic mapping education component, whose objective shall be—

[(A) to develop the academic programs that teach earth-science students the fundamental principles of geologic mapping and field analysis; and

[(B) to provide for broad education in geologic mapping and field analysis through support of field teaching institutes.

Investigations conducted under the geologic mapping education component shall be integrated with the other mapping components of the geologic mapping program, and shall respond to priorities identified for those components.]

(4) EDUCATION COMPONENT.—A geologic mapping education component—

(A) the objectives of which shall be—

(i) to develop the academic programs that teach earth-science students the fundamental principles of geologic mapping and field analysis; and

(ii) to provide for broad education in geologic mapping and field analysis through support of field studies;

(B) investigations under which shall be integrated with the other mapping components of the geologic mapping program and shall respond to priorities identified for those components; and

(C) Federal funding for which shall be matched by non-Federal sources on a 1-to-1 basis.

SEC. 5. ADVISORY COMMITTEE.

[(a) ESTABLISHMENT.—There shall be established a sixteen member geologic mapping advisory committee to advise the Director on planning and implementation of the geologic mapping program. The President shall appoint one representative each from the Environmental Protection Agency, the Department of Energy, the De-

partment of Agriculture, and the Office of Science and Technology Policy. Within 90 days and with the advice and consultation of the State Geological Surveys, the Secretary shall appoint to the advisory committee 2 representatives from the Survey (including the Chief Geologist, as Chairman), 4 representatives from the State geological surveys, 3 representatives from academia, and 3 representatives from the private sector.]

(a) ESTABLISHMENT.—

(1) IN GENERAL.—There shall be established a 10-member geologic mapping advisory committee to advise the Director on planning and implementation of the geologic mapping program.

(2) MEMBERS EX OFFICIO.—Federal agency members shall include the Administrator of the Environmental Protection Agency or a designee, the Secretary of Energy or a designee, the Secretary of Agriculture or a designee, and the Assistant to the President for Science and Technology or a designee.

(3) APPOINTED MEMBERS.—Not later than 90 days after the date of enactment of the National Geologic Mapping Reauthorization Act of 1996, in consultation with the Association, the Secretary shall appoint to the advisory committee 2 representatives from the Survey (including the Chief Geologist, as Chairman), 2 representatives from the State geological surveys, 1 representative from academia, and 1 representative from the private sector.

(b) DUTIES.—The advisory committee shall—

(1) * * *

* * * * * * *

(3) submit an annual report to the Secretary that evaluates the progress of the Federal [and State], *State, and university* mapping activities and evaluates the progress made toward fulfilling the purposes of this Act.

SEC. 6. GEOLOGIC MAPPING PROGRAM IMPLEMENTATION PLAN.

The Secretary, acting through the Director, shall, with the advice and review of the advisory committee, prepare an implementation plan for the geologic mapping program. The plan shall identify the overall management structure and operation of the geologic mapping program and shall provide for—

(1) the role of the Survey in its capacity as overall management lead, including the responsibility for developing the national *cooperative* geologic mapping program that meets Federal needs while simultaneously fostering State needs;

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(3) mechanisms for identifying short- and long-term priorities for each component of the geologic mapping program, including—

(A) * * *

* * * * * * *

[(C) for the State geologic mapping component, a priority-setting mechanism that responds to (i) specific intrastate needs for geologic-map information, and (ii) interstate needs shared by adjacent entities that have common requirements; and]

(C) for the State geologic mapping component, a priority-setting mechanism that responds to—

(i) specific intrastate needs for geologic-map information; and

(ii) interstate needs shared by adjacent entities that have common requirements; and

(D) for the geologic mapping education component, a priority-setting mechanism that responds to requirements for geologic-map information that are driven by Federal and State mission requirements;

[(4) a description of the degree to which the Survey can acquire, archive, and use Side-Looking Airborne Radar (SLAR) or Interferometric Synthetic Aperture Radar (IFSAR) data in a manner that is technically appropriate for geologic or related mapping studies;

[(5) a mechanism for adopting scientific and technical map standards for preparing and publishing general-purpose and special-purpose geologic maps to (A) assure uniformity of cartographic and scientific conventions, and (B) provide a basis for judgment as to the comparability and quality of map products; and]

(4) a mechanism for adopting scientific and technical mapping standards for preparing and publishing general-purpose and special-purpose geologic maps to—

(A) ensure uniformity of cartographic and scientific conventions; and

(B) provide a basis for judgment as to the comparability and quality of map products; and

[(6)] *(5)* a mechanism for monitoring the inventory of published and current mapping investigations nationwide in order to facilitate planning and information exchange and to avoid redundancy.

SEC. 7. NATIONAL GEOLOGIC-MAP DATA BASE.

(a) ESTABLISHMENT.—The Survey shall establish a national geologic-map data base. Such data base shall be a national archive that includes all maps developed pursuant to this Act, the data bases developed pursuant to the investigations under sections (4)(d)(2) (C), (D), (E), and (F), and other maps and data as the Survey deems appropriate.

[(b) STANDARDIZATION.—Geologic maps contributed to the national archives should have standardized format, symbols, and technical attributes so that archival information can be assimilated, manipulated, accessed, exchanged, and compared efficiently and accurately.]

(b) STANDARDIZATION.—

(1) IN GENERAL.—Geologic maps contributed to the national archives shall have format, symbols, and technical attributes that adhere to standards so that archival information can be accessed, exchanged, and compared efficiently and accurately, as required by Executive Order 12906 (59 Fed. Reg. 17,671 (1994)), which established the National Spatial Data Infrastructure.

(2) DEVELOPMENT OF STANDARDS.—Entities that contribute geologic maps to the national archives shall develop the stand-

ards described in paragraph (1) in cooperation with the Federal Geographic Data Committee, which is charged with standards development and other data coordination activities as described in Office of Management and Budget revised Circular A–16.

SEC. 8. ANNUAL REPORT.

The Secretary shall, within 90 days after the end of each fiscal year, submit an annual report to the [Committee on Natural Resources] *Committee on Resources* of the House of Representatives and the Committee on Energy and Natural Resources of the Senate describing the status of the nationwide geologic mapping [program, and describing and evaluating progress] *program and describing and evaluating the progress* achieved during the preceding fiscal year in developing the national geologic-map data base. Each report shall include any recommendations for legislative or other action as the Secretary deems necessary and appropriate to fulfill the purposes of this Act.

[SEC. 9. AUTHORIZATION OF APPROPRIATIONS.

[There is authorized to be appropriated to carry out this Act the following:

[(1) For Federal mapping activities under this Act, $12,500,000 for fiscal year 1993, $14,000,000 for fiscal year 1994, $16,000,000 for fiscal year 1995, and $18,000,000 for fiscal year 1996.

[(2) For Federal support activities under this Act, $9,500,000 for fiscal year 1993, $10,000,000 for fiscal year 1994, $10,500,000 for fiscal year 1995, and $11,000,000 for fiscal year 1996.

[(3) For State mapping activities under this Act, $15,000,000 for fiscal year 1993, $18,000,000 for fiscal year 1994, $21,000,000 for fiscal year 1995, and $25,000,000 for fiscal year 1996.

[(4) For educational support activities under this Act, $500,000 for fiscal year 1993, $750,000 for fiscal year 1994, $1,000,000 for fiscal year 1995, and $1,500,000 for fiscal year 1996.]

SEC. 9. AUTHORIZATION OF APPROPRIATIONS.

(a) IN GENERAL.—There are authorized to be appropriated to carry out the national cooperative geologic mapping program under this Act—

(1) $24,000,000 for fiscal year 1997;

(2) $26,000,000 for fiscal year 1998;

(3) $28,000,000 for fiscal year 1999; and

(4) $30,000,000 for fiscal year 2000.

(b) ALLOCATION OF APPROPRIATED FUNDS.—

(1) IN GENERAL.—Of the amount of funds that are appropriated under subsection (a) for any fiscal year up to the amount that is equal to the amount appropriated to carry out the national cooperative geologic mapping program for fiscal year 1996—

(A) not less than 20 percent shall be allocated to State mapping activities; and

(B) not less than 2 percent shall be allocated to educational mapping activities.

(2) INCREASED APPROPRIATIONS.—Of the amount of funds that are appropriated under subsection (a) for any fiscal year up to the amount that exceeds the amount appropriated to carry out the national cooperative geologic mapping program for fiscal year 1996—

(A) for fiscal year 1997—

(i) 76 percent shall be allocated for Federal mapping and support mapping activities;

(ii) 22 percent shall be allocated for State mapping activities; and

(iii) 2 percent shall be allocated for educational mapping activities;

(B) for fiscal year 1998—

(i) 75 percent shall be allocated for Federal mapping and support mapping activities;

(ii) 23 percent shall be allocated for State mapping activities; and

(iii) 2 percent shall be allocated for educational mapping activities;

(C) for fiscal year 1999—

(i) 74 percent shall be allocated for Federal mapping and support mapping activities;

(ii) 24 percent shall be allocated for State mapping activities; and

(iii) 2 percent shall be allocated for educational mapping activities; and

(D) for fiscal year 2000—

(i) 73 percent shall be allocated for Federal mapping and support mapping activities;

(ii) 25 percent shall be allocated for State mapping activities; and

(iii) 2 percent shall be allocated for educational mapping activities.

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