MISSION, GOALS, AND AUTHORITIES of the U.S. Geological Survey, June 1985

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Department of the Interior
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FOREWORD

We live in a society which depends on natural resources. Our high standard of living requires use of the land, water, and mineral endowment of the Earth. In using these resources, we may affect our environment and alter our options for land and resource use in the future. How can we ensure an adequate supply of this natural wealth in the future? In what ways are we irreversibly altering our natural environment? How can we avoid undesirable or unacceptable side effects of man's use of the land and prevent or mitigate earth-related hazards? To respond to these and other similar questions, knowledge about the Earth, its structure, its resources, and its dynamics is essential.

The U.S. Geological Survey was established over a century ago to provide information about the Earth for use by the Congress, Federal agencies, and the public in reaching informed decisions concerning our natural resources. To place this knowledge in a coherent scientific and global context and apply it to meet future needs necessitates continued research in basic earth science.

The Survey has been, from its very inception, an integral part of the larger national and international earth-science community. It cooperates with other Federal and State agencies, as well as with academic and industrial groups, both in the United States and elsewhere, to ensure a continuous and mutually beneficial collection and exchange of information, ideas, and results.

The Survey's contributions enhance the quality of life in our country. Its effectiveness and credibility stem largely from its ability to attract outstanding people and its commitment to objectivity in its investigations.

This document describes the mission, goals, and authorities of the Survey and shows how they relate to national needs. As the needs of the Nation and as the state of the science change, the document will be reviewed and revised if necessary. Comments are invited. Please address them to the Director, U.S. Geological Survey, 100 National Center, Reston, Virginia 22092.

Dallas L. Peck
Director

PREFACE

The U.S. Geological Survey was established in 1879 when the Congress of the United States determined that the Nation needed an agency to examine the geologic structure, mineral resources, and other products of the "national domain." Since that time, the mission of the Survey has evolved as a result of additional legislation, advancements in science and technology, and changing national needs and priorities. This evolution has been in concert with other elements of the Federal and State governments and with the larger earth-science community, both national and international, of which the Survey has always been an integral part.

The material needs of society are ultimately met by the resources of the Earth. Therefore, earth scientists are important contributors to the future welfare of the Nation. As our society grows and technology evolves, the material requirements to meet national needs change. To maintain the ability to meet its responsibility in addressing these changing needs, the Survey must periodically reexamine its mission and goals.

This document presents the results of such a reexamination. It is organized into four sections: (1) National Needs -- problems where earth-science information is needed for decisionmaking; (2) Mission -- functions that the Survey is authorized and funded to perform; (3) Goals -- a desired state, process, or product that the Survey plans to achieve in order to address future needs for earth-science knowledge; and (4) Authorities -- legislation and executive documents that have authorized and funded Survey activities since it was established in 1879. The appendix is a chronological list of pertinent legislation.

NATIONAL NEEDS

Population growth, expansion of material needs, and rapidly changing technology have placed great demands on the Nation's natural resources and environment. Satisfying present and future needs for food, water, energy, living space, shelter, transportation, recreation, and other requirements of a modern civilized society create many complex problems. Solution of these problems demands application of earth-science information to guide the development, conservation, and management of land, mineral, and water resources. Some of the national needs, and ways in which earth sciences can be applied to meet them, are listed below.

Energy

- Use of nonrenewable energy resources requires continuing efforts by earth scientists to locate and understand the genesis of these resources, and to maintain current knowledge of the supply, demand, and discovery of energy resources worldwide.

- Development of other energy resources, such as hydroelectric, geothermal, solar, or fusion power, may require decisions about alternative uses of land, water, and materials.

- Extraction of certain energy-producing materials from the Earth carries with it the risk of serious environmental damage. Examples are wastes from the mining and processing of energy-producing materials, increased output of atmospheric pollutants that affect the quality of precipitation, destruction of habitats because of mining activity, land subsidence around oil fields, and pollution of water from the disposal of energy-related wastes. Solutions to these problems require understanding of the chemical, physical, and biological processes occurring in the air, in the land surface, and in the ground.

Minerals

- Our industrial society consumes large quantities of mineral resources. At the same time, urban growth and withdrawal of public lands prevent many areas from being developed for mineral extraction. Accurate appraisals of mineral resources of public and private lands, both onshore and offshore, are needed to (1) facilitate decisionmaking about the long-term availability of minerals and about technological problems associated with alternative uses and (2) make policy decisions about the use of the Nation's land.

- Many major mineral districts are nearly depleted. Important mineral deposits either may be undetected or are not currently being exploited because of low grade or poor accessibility. New techniques are needed to detect undiscovered deposits and to utilize lower grade mineral deposits.

- Many strategic and critical minerals needed to sustain our society are not found in abundance within the United States and have to be imported. Study of the origins of these minerals, their worldwide distribution, and the development of methodologies for their detection can identify new sources and lessen our reliance on uncertain foreign sources.

Water

- In addition to the need for water to sustain life, water is necessary for the future growth of the economy, particularly for the production of food and energy. Hydrologic information contributes to descriptions of the location, quantity, quality, and use of water resources and prediction of the effects of water development on the future availability of the water supplies. Planners and managers use this information to locate, design, and operate water-supply facilities, such as reservoirs, well fields, and water-treatment plants, and to plan for regional and local economic development.

- Protection of water resources from contamination by toxic wastes discarded to streams, injected into aquifers, or placed on the land or underground is essential to public health and the quality of life. An understanding of the chemical, physical, and biological mechanisms that control the behavior of contaminants is necessary to detect their presence and predict their behavior. This kind of knowledge enables planners and managers to identify effective strategies for protecting the quality of water resources and for locating, designing, and operating waste disposal facilities.

- Allocation of water resources is based on court decrees, interstate compacts, international treaties, and water law. Accurate information about our water resources is needed to apportion available resources, monitor fulfillment of legal obligations, and resolve disputes.

Land

- Proper management of the land requires information about its location, configuration, and current and potential uses. Topographic maps, land-use maps, digital cartographic data bases, and remotely sensed images and data contribute to the definition of land resources. As changes in the physical and cultural features of the land occur, the need for current and more detailed cartographic and geographic information increases.

- The capacity of the land to support human enterprise is finite. Multiple and conflicting demands for land are often unavoidable, and difficult choices among uses must be made. Examples of possible conflicting uses include those of wilderness, agriculture, urban development, and mineral- or energy-resource extraction. In deciding how to use the land, we must evaluate the benefits to society and the impacts on the land and its animal and plant life.

Food and Fiber

- A better understanding of the relations among geology, topography, soil genesis, and properties, weathering, and erosion is needed to identify soils that can best support agricultural production. This understanding can contribute to more effective land-use decisions.

- Irrigation frequently requires artificial drainage to prevent water saturation of the soil and to prevent the accumulation of naturally occurring salts and minerals at concentrations toxic to plants or animals. However, the drainage process itself can lead to contamination of surface

water and ground water. Understanding of soil physics and the geochemistry of surface-water and ground-water flow systems is necessary to design drainage systems that are free of these problems.

- Mineral resource investigations are needed to assure the continued availability of mineral fertilizers. Research is needed to predict the impact of fertilizers, herbicides, and pesticides on soil, ground water, surface water, and sediments to assure the continued production of food without irreparable environmental damage.

Housing and Transportation

- The suitability of any site developed to accommodate our growing population, depends in part on the engineering properties of rocks and soils, the slope of the land, and the potential for natural hazards such as flooding. Topographic, geologic, and flood-hazard maps are among the kinds of information that are used to evaluate site suitability.

- The design and construction of transportation facilities such as pipelines, powerlines, tunnels, bridges, navigable waterways, roads, railroads, and airports require information on topographic, geologic, and hydrologic characteristics of the site. Better knowledge of these characteristics can lead to more efficient, reliable, and safer transportation systems.

- The availability of nearby sources of construction materials such as sand, gravel, and limestone is vital to the development of housing and transportation. Knowledge of the location, quantity, and quality of these resources is obtained by geologic investigations and disseminated in geologic maps and reports.

Health and Safety

- Human contact with certain earth materials in their native state or in the course of extraction, processing, use, and subsequent disposal can pose threats to health. Earth-science knowledge can contribute to better decisions to protect society from adverse consequences associated with the use of these materials by identifying materials that pose potential health hazards and by contributing to an understanding of how such problems may be avoided or mitigated.

- Geologic and hydrologic hazards, such as earthquakes, volcanic eruptions, floods, tsunamis, subsidence, and landslides, threaten public safety and cause great economic losses. Earth-science information is used to delineate flood plains and other hazard zones and to evaluate risk. Predictive methodologies are essential for land-use planning, engineering design, and emergency-preparedness decisions to reduce the loss of life, property, and natural resources.

National Security

- Maps and other earth-science data are needed for an understanding of the configuration and characteristics of the land surface and the distribution of water supplies and earth materials for possible military operations in defense of our country. Knowledge of the availability of strategic and

critical minerals on a global scale is also necessary for planning national security.

- Detection and identification of underground nuclear tests require knowledge of the Earth's internal structure and the physical properties of rocks and requires the ability to discriminate such tests from earthquakes. Planning for the containment of underground tests of nuclear weapons and storage of weapons and associated radioactive wastes requires geologic and hydrologic information.

- National defense and security depend upon the capability to quickly and accurately locate features on the Earth's surface. Modern navigation systems require extensive knowledge about the geodetic and geophysical characteristics, topography, and oceanographic features of the Earth.

- Knowledge of geologic hazards on military facilities, communications, and stockpiles is necessary to avoid or mitigate the effects of natural catastrophic events.

MISSION

The mission of the U.S. Geological Survey is to provide geologic, topographic, and hydrologic information that contributes to the wise management of the Nation's natural resources and that promotes the health, safety, and well-being of the people. This information consists of maps, data bases, and descriptions and analyses of the water, energy, and mineral resources, land surface, underlying geologic structure, and the dynamic processes of the Earth.

To accomplish its mission, the Survey:

- Conducts and sponsors research in geology, hydrology, mapping, and related sciences to address national needs.
- Produces and updates geographic, cartographic, and remotely sensed information in graphic and digital forms.
- Describes the onshore and offshore geologic framework and develops an understanding of its formation and evolution.
- Assesses energy and mineral resources, determines their origin and manner of occurrence, and develops techniques for their discovery.
- Collects and analyzes data on the quantity and quality of surface water and ground water, on water use, and on the quality of precipitation.
- Assesses water resources and develops an understanding of the impact of human activities and natural phenomena on hydrologic systems.
- Evaluates hazards associated with earthquakes, volcanoes, floods, droughts, toxic materials, landslides, subsidence, and other ground failures.
- Participates in the exploration of space by characterizing processes and materials within the solar system.
- Publishes reports and maps, establishes and maintains earth-science data bases, and disseminates earth-science data and information.
- Provides scientific and technical assistance for the effective use of earth-science techniques, products, and information.
- Coordinates topographic, geologic, and land-use mapping, digital cartography, and water-data acquisition.

GOALS

Goals identify a desired state, process, or product and serve to guide an organization toward the future. The goals presented below are those where the U.S. Geological Survey seeks to make contributions to the welfare of society within the context of its mission. These goals link the Survey's activities and programs to the national needs identified above. Although many of the Nation's needs for earth-science information are met by the Geological Survey, other Federal and State agencies, industry, and academia also make major contributions to meeting national needs for earth-science information.

Topographic Mapping

EXPAND KNOWLEDGE ABOUT THE LOCATION AND CONFIGURATION OF NATURAL AND MAN-MADE FEATURES OF THE NATION'S LAND AND WATER AREAS TO SATISFY THE NEEDS OF GOVERNMENT ORGANIZATIONS, INDUSTRY, AND THE PUBLIC FOR ACCURATE AND UP-TO-DATE TOPOGRAPHIC INFORMATION.

This information is required by a wide variety of users, such as those who manage the land, develop its resources, have responsibility for environmental protection or national security, or seek recreational opportunities. This information is the basic foundation necessary for the efficient conduct of land-resource and earth-science studies. Basic data are acquired through field surveys, use of aerial photographs and other remotely sensed data, and from other cartographic and geographic sources. The results are portrayed on topographic maps at various scales or maintained in digital data bases.

Geologic Framework

INCREASE KNOWLEDGE OF THE GEOLOGIC STRUCTURE OF THE NATION INCLUDING THE CONTINENTAL SHELF AND THE EXCLUSIVE ECONOMIC ZONE TO PROVIDE THE SCIENTIFIC FRAMEWORK FOR ENERGY, MINERAL, AND HAZARDS INVESTIGATIONS AND TO MEET UNFORESEEN FUTURE RESPONSIBILITIES.

Such knowledge must include an understanding of the deep structure and composition of the Earth, its history of formation and evolution, and its relation to other planets and moons in the solar system. The knowledge is acquired by means of geological and geophysical mapping; testing of conceptual models and measurement of physical and chemical properties of rocks and minerals; determination of the absolute and relative ages of rocks and minerals; documentation of the evolution of organisms and of past changes in the Earth's climatic and magnetic history; and participation in the exploration of space.

Energy and Mineral Resource Assessment

INCREASE KNOWLEDGE OF THE DISTRIBUTION AND QUALITY OF NATIONAL AND INTERNATIONAL MINERAL AND ENERGY RESOURCES SO THAT RESPONSIBLE OFFICIALS AND THE PUBLIC WILL BE ABLE TO FORMULATE AND EVALUATE POLICIES THAT AFFECT THE LONG-TERM AVAILABILITY OF THESE RESOURCES AND TO MAKE DECISIONS ABOUT THE WISE USE OF THE NATION'S LAND, MINERAL, AND ENERGY RESOURCES.

Such knowledge is obtained by developing and using techniques of resource evaluation including geologic mapping, resource-distribution modeling, geophysical and geochemical investigations, and supporting basic research.

Water Resources Assessment

INCREASE KNOWLEDGE OF THE DISTRIBUTION AND QUALITY OF THE NATION'S GROUND-WATER AND SURFACE-WATER RESOURCES SO THAT RESPONSIBLE OFFICIALS AND THE PUBLIC WILL BE ABLE TO FORMULATE AND EVALUATE POLICIES AND PROGRAMS THAT AFFECT WATER RESOURCES.

This entails knowing aquifer properties, the general configuration of water levels, and patterns of ground-water recharge, circulation, and discharge; average runoff, its seasonal variation, and low flow and flood characteristics of the Nation's rivers; the chemical and physical quality of these resources; and the quality of precipitation including geographic variations and time trends. This knowledge is developed by analyzing data collected over many years, mapping the resource, and interpreting these observations in light of the relevant natural and human factors.

Water Use

IMPROVE KNOWLEDGE OF THE WAY IN WHICH SOCIETY USES WATER RESOURCES SO AS TO SUPPORT WATER MANAGEMENT AND TO IMPROVE THE ACCURACY OF WATER-USE FORECASTS.

Such information assists officials to plan and design dams, well fields, water-distribution systems, water-treatment plants, and other water-related facilities. The development of a full range of water-management options depends, in part, upon knowledge of existing water-use processes, ways in which they may be altered, and the impact the processes have on water quality. This knowledge is acquired by collecting and analyzing data about the location, amount, and purposes of withdrawals from ground-water and surface-water systems; the location, amounts, and quality of water returned to hydrologic systems; and the amounts of water used.

Energy and Mineral Resource Processes

ENHANCE THE ABILITY TO DISCOVER HIDDEN OR AS YET UNRECOGNIZED TYPES OF ENERGY AND MINERAL DEPOSITS TO FORM ECONOMICALLY IMPORTANT ENERGY AND MINERAL RESOURCES BY DEVELOPING INFORMATION ON THE NATURAL PROCESSES BY WHICH MATERIALS IN THE EARTH ARE FORMED, TRANSPORTED, AND CONCENTRATED.

Such information is needed to improve our understanding of the origins and occurrence of this wealth. This knowledge is obtained by field investigations, laboratory experiments, analyses, and construction of conceptual models.

Hydrologic Processes

ENHANCE UNDERSTANDING OF THE PROCESSES THAT AFFECT OR CONTROL THE MOVEMENT OF WATER AND ITS DISSOLVED AND SUSPENDED CONSTITUENTS THROUGH HYDROLOGIC SYSTEMS.

This provides water resources managers with the capability to predict the effects of natural phenomena and human actions on the hydrologic system. This enhanced understanding is achieved by fundamental research on the physical, chemical, and biological processes operating in hydrologic systems and by the simulation of these processes, which leads to improved methods of prediction.

Geographic Processes

INCREASE KNOWLEDGE OF THE PROCESSES THAT AFFECT THE LOCATION, DISTRIBUTION, QUALITY, AND CHANGES IN LAND USE AND LAND COVER TO IMPROVE PREDICTIONS OF THE EFFECTS OF NATURAL AND MAN-INDUCED STRESSES ON LAND-RESOURCE SYSTEMS.

This is accomplished by integrating and analyzing in a geographic framework information on physical, biological, and human processes.

Hazards Prediction

IMPROVE THE ABILITY TO PREDICT THE LOCATION, TIME, AND SEVERITY OF NATURAL AND MAN-MADE HAZARDS IN ORDER TO MINIMIZE LOSS OF LIFE AND PROPERTY.

Losses from earth-science hazards including earthquakes, volcanic eruptions, and landslides can be reduced by development of predictive methodology and by a more complete understanding of the rates of dynamic interactions of Earth processes.

Hazards Mitigation and Prevention

IMPROVE TECHNOLOGIES FOR MINIMIZING DESTRUCTION IN AREAS AFFECTED BY NATURAL AND MAN-MADE HAZARDS IN ORDER TO PROVIDE THE MEANS TO PREVENT OR REDUCE THE RISKS OF ECONOMIC DISRUPTION AND LOSS OF LIFE.

Included in these hazards are earthquakes, volcanic eruptions, floods, and landslides; human activities that result in soil erosion and ground-water depletion; and nuclear and other toxic-waste contamination. Information for this purpose is obtained by locating potential hazards, determining their character, and devising means to diminish their actual or expected effects on public health and safety, property, and the environment.

Timely Reporting of Events and Conditions

PROVIDE TIMELY REPORTING, AND FORECASTS WHEN POSSIBLE, OF IMPORTANT HYDROLOGIC AND GEOLOGIC EVENTS AND CONDITIONS OF IMMEDIATE CONCERN TO THE PUBLIC AND TO GOVERNMENTAL BODIES.

The timely reporting of hydrologic conditions is needed for the efficient operation of water-supply and navigation facilities, for efficient water-quality and flood control, and for the implementation of court decrees, treaties, and compacts. Certain geologic events, such as earthquakes, volcanic activity, or magnetic field

changes, require the rapid determination of the location, magnitude, or nature of the event for immediate and effective responses. The timely documentation of these conditions and events is accomplished by the continued operation of networks of sensors, including streamgages and seismometers, and by the rapid processing, analysis, and dissemination of relevant information and warnings.

Coordination

IMPROVE THE COORDINATION OF EARTH-SCIENCE DATA COLLECTION, RESEARCH, AND MAPPING SO AS TO MINIMIZE DUPLICATION OF EFFORT, INCREASE DATA ACCESSIBILITY, AND REDUCE COSTS.

Coordination is carried out by sharing plans, technologies, and data bases, and by making approaches to standardize information formats.

Earth-Science Standards

ESTABLISH STANDARDS FOR ACCURACY, FORMAT, AND MAINTENANCE OF EARTH-SCIENCE INFORMATION NECESSARY TO IMPROVE COMMUNICATION AND FACILITATE THE EXCHANGE OF INFORMATION AMONG USERS.

Standards are developed in operational programs and are reviewed by earth-science colleagues and other potential users. Standards also are revised as the result of improvement in technology and evolving scientific thought and as a result of user requirements. Some standards are developed in concert with other Federal agencies, professional organizations, or international councils. Selected earth-science standards are submitted for review and promulgation as Federal standards.

Information Dissemination

IMPROVE PUBLIC AND PRIVATE SECTOR ACCESSIBILITY AND UNDERSTANDING OF EARTH-SCIENCE INFORMATION AND TECHNOLOGIES.

This is achieved by publishing maps, scientific and technical reports, and data bases and by operating public information centers and clearinghouses that enable potential users to readily identify and obtain existing information.

Training and Assistance

INCREASE CAPABILITIES OUTSIDE THE SURVEY, ESPECIALLY OF ACADEMIC INSTITUTIONS AND STATE AGENCIES, TO CONDUCT EARTH-SCIENCE RESEARCH, TO DEVELOP TECHNOLOGIES THAT CAN HELP SOLVE RESOURCE-RELATED PROBLEMS, AND TO TRAIN AN ADEQUATE SUPPLY OF EARTH-SCIENCE PROFESSIONALS.

This is accomplished by cooperative programs and by research grants.

Mission Support

IMPROVE PRODUCTIVITY OF THE SURVEY TO EFFECTIVELY CARRY OUT ITS MISSION.

This is accomplished by securing and developing a competent and innovative work force, improving the quality of the work place, and deriving maximum benefits from available resources.

AUTHORITIES

The U.S. Geological Survey derives authority for its activities from specific pieces of legislation, including its annual appropriation acts and various executive orders. The Survey was established by an Act of Congress on March 3, 1879, that authorized "appropriations for sundry civil expenses of the Government for the fiscal year ending June 30, 1880, and for other purposes." This Act is commonly referred to as the Survey's Organic Act, codified in 43 U.S.C. 31 as follows:

Organic Act

> "The Director of the Geological Survey, which office is established, under the Interior Department, shall be appointed by the President by and with the advice and consent of the Senate. This officer shall have the direction of the Geological Survey and the classification of the public lands and examination of the geological structure, mineral resources, and products of the national domain. The Director and members of the Geological Survey shall have no personal or private interests in the lands or mineral wealth of the region under survey, and shall execute no surveys or examinations for private parties or corporations."

The Survey's authority was made more specific over the years by additional legislation (listed in the appendix) that clarifies its role and authority. For example, the geographic scope of the Survey's activities was expanded beyond the national domain when on

Geographic Scope

August 23, 1958, the Secretary of the Interior was authorized by P.L. 85-743 (43 U.S.C. 1457) "to perform surveys, investigations, and research in geology, biology, minerals and water resources, and mapping . . . in Antarctica and the Trust Territories of the the Pacific Islands;" and on September 5, 1962, when the Survey was authorized by P.L. 87-626 (43 U.S.C. 31b) to conduct "such examinations outside the national domain where determined by the Secretary to be in the national interest."

Geologic Surveys

Authority for conducting geologic surveys is expressly contained in the 1879 Organic Act. Chemical and physical research was recognized and undertaken as an essential part of geologic investigations. Specific appropriation for such work was made by Congress in an act of October 2, 1888 (25 Stat. 505, 526).

Topographic Surveys

Authority for making topographic surveys is inherent in the language of the 1879 Organic Act. In appropriating funds for the fiscal year 1889 (25 Stat. 505, 526), Congress made specific provision for topographic surveys. Further recognition was given in an act of June 11, 1896 (43 U.S.C. 38), requiring that, in making topographic surveys, elevations "shall be determined and marked by iron or stone posts or permanent bench marks;" and by the joint resolution of February 18, 1897 (43 U.S.C. 42), authorizing and directing the dispersal of "topographic and geologic maps and atlases of the United States, made and published by the Geological Survey . . . ." Cooperative (joint) funding with State and local government agencies was first referenced in the appropriations act of March 7, 1928 (45 Stat. 231), which provided that the share of the Geological Survey in any topographic investigation carried out in cooperation with any State or municipality shall not exceed 50 percent of the cost.

Water Resources Investigations

Authority for conducting water resources investigations is inherent in the language of the 1879 Organic Act. It was further recognized in an act of October 2, 1888 (25 Stat. 505, 526) which authorized the survey of irrigable lands in arid regions, reservoir sites, gaging of streams, etc., for irrigation. In an August 18, 1894, statute (28 Stat. 372, 398), Congress made funds available to the Geological Survey for "gaging the streams and determining the water supply of the United States, including the investigations of underground currents and artesian wells in arid and semi-arid sections." Authority to exercise these functions by the Geological Survey is also indicated in an act of June 11, 1896 (29 Stat. 413, 453), providing that "hereafter the reports of the Geological Survey in relation to the gaging of streams and to the methods of utilizing the water resources may be printed in octavo form . . . ;" and the joint resolution of May 16, 1902 (44 U.S.C. 260), providing that "hereafter the publications of the Geological Survey shall consist of . . . water-supply and irrigation papers . . . . " Cooperative (joint funding of water resources investigations was first referenced in the appropriations act of March 7, 1928 (45 Stat. 231), which provided that the share of the Geological Survey in any water resource investigation carried out in cooperation with any State or municipality shall not exceed 50 percent of the cost.

The Survey's legislative authorities were supplemented in later years by authorizations from the Office of Management and Budget (OMB) as follows:

National Mapping Coordination

OMB Circular A-16, issued by the Bureau of the Budget on January 16, 1953, and revised May 6, 1967, names the Department of the Interior (delegated to the Geological Survey); as "responsible for the National Topographic Map Series of the United States and outlying areas of sovereignty and jurisdiction and for the National Atlas of the United States of America." It also calls for the Department to operate a "Map Information Office" and to exercise "governmentwide leadership in assuring coordinated planning and execution" of these and the "cartographic activities of other Federal agencies related thereto . . . ." The Map Information Office has evolved into the National Cartographic Information Center (NCIC).

Water Data Coordination

OMB Circular A-67, issued by the Bureau of the Budget on August 28, 1964, gives the Department of the Interior (delegated to the Geological Survey) responsibility "for the design and operation of the national network for acquiring data on the quantity and quality of surface and ground waters, including sediment load of streams," and responsibility "for exercising leadership in achieving effective coordination of national network and specialized water data acquisition activities."

Digital Cartographic Data

A memorandum to heads of departments from the Director, Office of Management and Budget, on April 4, 1983, assigns the Department of the Interior (delegated to the Geological Survey) the chair of a Federal Interagency Coordinating Committee on Digital Cartography "to improve the use of digital cartographic base data within the Federal Government and to provide a framework for its proper management...." This memorandum is in effect until March 15, 1986.

AUTHORIZING LEGISLATION OF THE U.S. GEOLOGICAL SURVEY

Popular Title or Subject	Public Law Number	Date	Purpose
Appropriations Act of 1879	None	Mar. 3, 1879	Establishes the Geological Survey for the classification of the public lands and examination of the geological structure, mineral resources, and products of the national domain. (43 U.S.C. 31(a)) Authorizes the publication, exchange, and sale of geological and economic maps, and reports on general and economic geology and paleontology. (43 U.S.C. 41)
Appropriations Act of 1889	None	Oct. 2, 1888	Provides for chemical and physical research as part of geologic investigations, and for topographic surveys.
Appropriations Act of 1894	None	Aug. 18, 1894	Provides for gaging streams and determining the water supply.
Appropriations Act of 1896	None	June 11, 1896	Authorizes the establishment and location of permanent benchmarks used in making topographic surveys. (43 U.S.C. 38) Authorizes the publication of Geological Survey reports on gaging of streams and methods of utilizing water resources. (44 U.S.C. 1318)
Distribution of Maps and Atlases, etc.	Pub. Res. 13 54th Congress	Feb. 18, 1897	Authorizes the Director to distribute the topographic and geologic maps and atlases of the United States, and provides also that a copy of each map and atlas shall be sent to each member of Congress. (43 U.S.C. 42 and 43)

AUTHORIZING LEGISLATION OF THE U.S. GEOLOGICAL SURVEY (Continued)

Popular Title or Subject	Public Law Number	Date	Purpose
Joint Resolution of May 16, 1902	Pub. Res. 22 57th Congress	May 16, 1902	Authorizes publication by the Geological Survey of water supply and irrigation papers. (44 U.S.C. 1318)
Sale of Data	Pub. Law 383 59th Congress	June 30, 1906	Authorizes the Geological Survey to furnish copies of maps to any person, concern, institution, State, or foreign government, with receipts to be deposited in the general fund of the Treasury. (43 U.S.C. 44)
Production and Sale of Photographs and Records	Pub. Law 328 60th Congress	Mar. 4, 1909	Authorizes the Director to produce and sell copies of photographs, mosaics, and other official records. (43 U.S.C. 45)
USGS Share of Cost for Work in Cooperation with State and Local Governments	Pub. Law 100 70th Congress	Mar. 7, 1928	Directs that the Geological Survey share in any topographic mapping or water resources investigations carried out in cooperation with any State or municipality shall not exceed 50 percent of that cost. (43 U.S.C. 50)
Extension of Cooperative Work to Puerto Rico	Pub. Law 29 74th Congress	June 17, 1935	Authorizes the Geological Survey to make topographic and geologic surveys and to conduct investigations relating to mineral and water resources in Puerto Rico. (43 U.S.C. 49)
Production and Sale of Photographs and Records	Pub. Law 206 80th Congress	July 21, 1947	Authorizes the Director to produce and sell copies of aerial photographs and provides for receipts to be deposited in the Treasury to the credit of the current appropriations. (43 U.S.C. 45)

AUTHORIZING LEGISLATION OF THE U.S. GEOLOGICAL SURVEY (Continued)

Popular Title or Subject	Public Law Number	Date	Purpose
Standardization of Geographic Names	Pub. Law 242 80th Congress	July 25, 1947	Directs the Secretary* to assume responsibility for all functions relating to domestic geographic names, including staff support to the interdepartmental U.S. Board of Geographic Names. (43 U.S.C. 364)
Appropriations Act of Fiscal Year 1953	Pub. Law 470 82nd Congress	July 9, 1952	Authorizes payment of compensation and expenses of persons on the rolls of the Geological Survey appointed to represent the United States in the negotiation and administration of interstate compacts. (Same administrative provision appears in current appropriations acts.)
Mineral Discovery Loan Program Act of 1958	P.L. 85-701	Aug. 21, 1958	Authorizes the Secretary* to provide a program for exploration by private industry within the United States, its territories and possessions, for minerals, excluding organic fuels, and to provide Federal financial assistance. (30 U.S.C. 641) (Activities under the Act not funded since 1974.)
Appropriations Act of Fiscal Year 1959	P.L. 85-743	Aug. 23, 1958	Authorizes the Secretary* to perform surveys, investigations and research in geology, biology, minerals and water resources, and mapping in Antarctica and the Trust Territories of the Pacific Islands. (43 U.S.C. 1457 note)
Acquisition of Lands for Use in Gaging Streams and Underground Resources	P.L. 86-406	Apr. 4, 1960	Authorizes the Secretary to acquire lands on behalf of the Geological Survey for use in gaging streams and underground resources. (43 U.S.C. 36b)

*The Secretary of the Interior has assigned responsibility to the Director, U.S. Geological Survey.

AUTHORIZING LEGISLATION OF THE U.S. GEOLOGICAL SURVEY (Continued)

Popular Title or Subject	Public Law Number	Date	Purpose
Examination of the Geological Structure Outside the National Domain	P.L. 87-626	Sep. 5, 1962	Authorizes the examination of the geological structure, mineral resources, and products outside the national domain. (43 U.S.C. 31(b))
Wilderness Act of 1964	P.L. 88-577	Sep. 3, 1964	Authorizes the Geological Survey and Bureau of Mines to assess the mineral resources of each area proposed or established as wilderness if no prior mineral survey was done. (16 U.S.C. 1131)
Delmarva Peninsula Hydrologic Study	P.L. 89-618	Oct. 4, 1966	Authorizes the Secretary* to make a comprehensive 5-year study and investigation of the water resources of the Delmarva Peninsula. (42 U.S.C. 1962d-7)
Classes and Sizes of Publications	P.L. 90-620	Oct. 22, 1968	Requires that publications of the Geological Survey shall include maps, folios, and atlases required by law. Further provides for printing and reprinting of Geological Survey reports and distribution to Congress and the Library of Congress. (44 U.S.C. 1318) Also authorizes the Geological Survey to send publications to public libraries. (44 U.S.C. 1320)
Federal Water Pollution Control Act Amendments of 1972	P.L. 92-500	Oct. 18, 1972	Directs EPA to have a water quality surveillance system that will use the resources of the Geological Survey. (33 U.S.C. 1254(a))

* The Secretary of the Interior has assigned responsibility to the Director, U.S. Geological Survey.

AUTHORIZING LEGISLATION OF THE U.S. GEOLOGICAL SURVEY (Continued)

Popular Title or Subject	Public Law Number	Date	Purpose
Flood Disaster Protection Act of 1973	P.L. 93-234	Dec. 31, 1973	Directs the Secretary of the Interior (through the U.S. Geological Survey) and heads of other Federal departments and agencies to give high-priority assistance to the Secretary of HUD in the mapping of flood-hazard areas and flood-risk zones. (42 U.S.C. 4101c)
Geothermal Energy Research, Development and Demonstration Act of 1974	P.L. 93-410	Sep. 3, 1974	Directs the Geological Survey to provide a schedule and objectives for inventorying geothermal resources, and names the Survey as the action agency, in support of the Geothermal Energy Coordination and Management Project, for developing a plan for a resource inventory, conducting regional surveys, and publishing maps. (30 U.S.C. 1121 et. seq.)
Federal Land Policy and Management Act of 1976	P.L. 94-579	Oct. 21, 1976	Authorizes the Geological Survey and the Bureau of Mines to do a mineral survey by 1991 of each area BLM recommends for wilderness study. (43 U.S.C. 1782)
Surface Mining Control and Reclamation Act of 1977	P.L. 95-87	Aug. 3, 1977	Establishes an Advisory Committee on Mining and Mineral Research under the State mining and mineral resources and research institutes program, with the Director of the Geological Survey as a member. (30 U.S.C. 1229(a))
Earthquake Hazards Reduction Act of 1977	P.L. 95-124	Oct. 7, 1977	Directs the Geological Survey to be part of an earthquake hazards reduction program, which encompasses prediction, hazards reduction, and research. (42 U.S.C. 7701 et seq.)

AUTHORIZING LEGISLATION OF THE U.S. GEOLOGICAL SURVEY (Continued)

Popular Title or Subject	Public Law Number	Date	Purpose
Earthquake Hazards Reduction Act Amendments of 1980	P.L. 96-472	Oct. 19, 1980	Authorizes the Director to issue earthquake predictions or advisories after notifying FEMA. (42 U.S.C. 7704(f))
Alaska National Interest Lands Conservation Act	P.L. 96-487	Dec. 2, 1980	Authorizes the Secretary* to assess oil and gas and other mineral resources on Federal lands in Alaska. (16 U.S.C. 3150)
Appropriations Act of Fiscal Year 1983	P.L. 97-394	Dec. 30, 1982	Authorizes the Geological Survey to accept contributions from public and private sources.
Nuclear Waste Policy Act of 1982	P.L. 97-425	Jan. 7, 1983	Authorizes the Geological Survey to act in a consultative and review role to the DOE for siting, building, and operating high-level radioactive waste repositories. (42 U.S.C. 10101 et. seq.)
Appropriations Act of Fiscal Year 1984	P.L. 98-146	Nov. 4, 1983	Authorizes the Geological Survey to retain receipts from the sale of all published maps. Also transfers responsibility for issuing grants to State water resources research institutes from the Office of Water Policy to the Geological Survey.
Water Resources Research Act of 1984	P.L. 98-242	Mar. 22, 1984	Authorizes the Secretary* to make grants to water resources research institutes for research and training and to make matching grants to academic institutions, State or local governments, or the private sector for water research and technology development. (42 U.S.C. 10301)

* The Secretary of the Interior has assigned responsibility to the Director, U.S. Geological Survey.

AUTHORIZING LEGISLATION OF THE U.S. GEOLOGICAL SURVEY (Continued)

Popular Title or Subject	Public Law Number	Date	Purpose
Land Remote Sensing Commercialization Act of 1984	P.L. 98-365	July 17, 1984	Encourages continued research in remote sensing in the Department of the Interior; the legislative report recommends utilization of the EROS Data Center as a remote sensing data archive. (15 U.S.C. 4201)
Barrow Gas Field Transfer Act of 1984	P.L. 98-366	July 17, 1984	Authorizes the Secretary to transfer the Barrow gas fields to the North Slope Borough of Alaska, and requires the Geological Survey to provide follow-up assistance to the North Slope Borough.
High Plains States Groundwater Demonstration Program Act of 1983	P.L. 98-434	Sep. 28, 1984	Authorizes the Bureau of Reclamation to establish demonstration projects for ground-water recharge of aquifers in the High Plains States and directs the Bureau to consult with the Geological Survey and other agencies in the two-phase program. (43 U.S.C. 390g)
Hazardous and Solid Waste Amendments of 1984	P.L. 98-616	Nov. 8, 1984	Provides for establishment of a National Ground Water Commission (NGWC); the Director of the Geological Survey is to provide, if requested by NGWC, personnel on a reimbursable basis.