United States
Environmental Protection
Agency

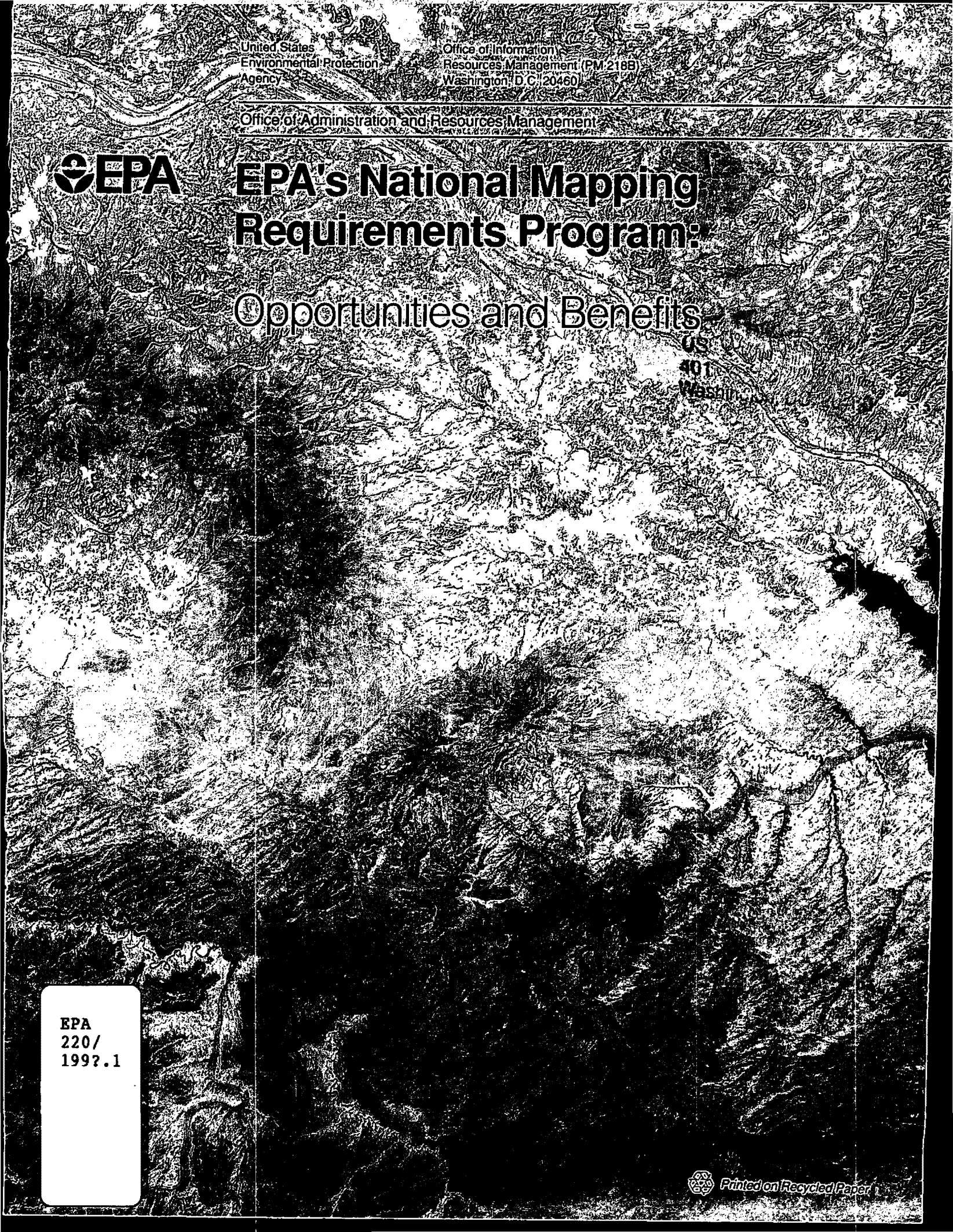
Office of Information
Resources Management (PM-218B)
Washington, D.C. 20460

Office of Administration and Resources Management

EPA

EPA's National Mapping Requirements Program:

Opportunities and Benefits



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Cover: This composite was made from a portion of a Lansat Thematic Mapper (TM) scene recorded on June 2, 1984. The area covered is approximately 90 by 90 kms and shows the upper part of Lake Powell in southeastern Utah. The composite was generated from TM bands 1, 2, and 3 which were calibrated with a procedure that included an atmospheric scattering correction. Colors seen in the composite are close to the natural colors seen on the ground, but with contrast enhancement. The data also had an edge enhancement applied to sharpen the image. This product was generated by Pat S. Chavez, Jr., National Mapping Division, U.S. Geological Survey, Flagstaff, AZ 86001.

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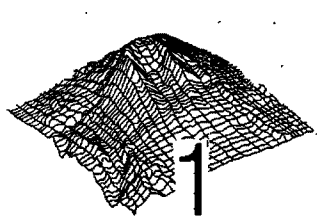

What is the NMRP?

The Environmental Protection Agency's Office of Information Resources Management (OIRM) has established a National Mapping Requirements Program (NMRP) to coordinate the geographic and related spatial data requirements of the Agency. The NMRP was designed to be a dynamic, ongoing program for EPA personnel to ***identify*** present and long-term mapping requirements, ***communicate*** those needs to the appropriate Federal agency, and provide mechanisms for ***acquiring*** the needed geographic information. By participating in the NMRP, EPA personnel can influence the future map production schedule of the United States.

OIRM established the NMRP in 1988, in response to the U.S. Geological Survey's (USGS) request for EPA participation in the mapping programs and activities of the National Mapping Division, the Geologic Divison, and the Water Resources Division. The initial focus of the NMRP was on the USGS map products and services as they pertain to EPA needs, as well as EPA's internal mapping capabilities provided by the Office of Research and Development. The NMRP is now being expanded to include all map production agencies within the Federal Geographic Data Community.

NMRP is an essential component of the Agency's National Geographic Information Systems (GIS) Program, and as such provides all EPA Regional, Laboratory, and Program Office personnel an opportunity and mechanism to plan for and acquire the geographic information necessary to meet Agency mission objectives.

The following sections describe the Agency's National Mapping Requirements Program, its product availability and benefits, and how EPA personnel can participate and submit their current and future mapping requirements for production consideration.

Why Maps? Why the NMRP?

Environmental information is inherently geographic in nature. Virtually all environmental assessments require locating and gathering data values or parameters on physical, chemical, and/or biological features for subsequent analysis and evaluation. Accurate representation of those features are essential for the successful interpretation of environmental conditions.

Examples of spatially referenced features used in environmental assessments include identifying monitoring wells and sampling sites; delineating wetlands and other sensitive habitats; detecting contaminant transport through the air, soil, or ground water; locating underground storage tanks and hazardous waste sites; and displaying the proximity of population centers to areas of environmental concern.

These and other geographic features of interest can be depicted on maps and are routinely required by EPA personnel for ongoing environmental assessments. The NMRP offers EPA personnel the opportunity to identify those recurring mapping requirements and the mechanism to request their production.

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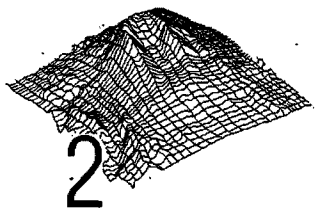

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How is EPA Coordinating its Spatial Data Activities?

EPA recognizes the importance of spatial data in fulfilling its mission of environmental monitoring, assessment, compliance, and research. To address the need for spatial data associated with these functions, OIRM has the responsibility for providing guidance and promoting the coordination of all related spatial data activities within the Agency. These activities include

- Managing the National GIS Program
- Operating the Geographic Resources Information & Data System (GRIDS)
- Developing an Agency-wide Locational Data Policy (LDP)
- Serving as a member of the Federal Geographic Data Committee (FGDC).

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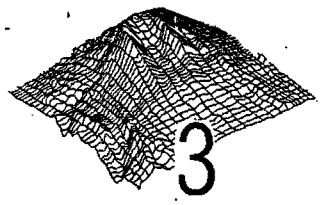


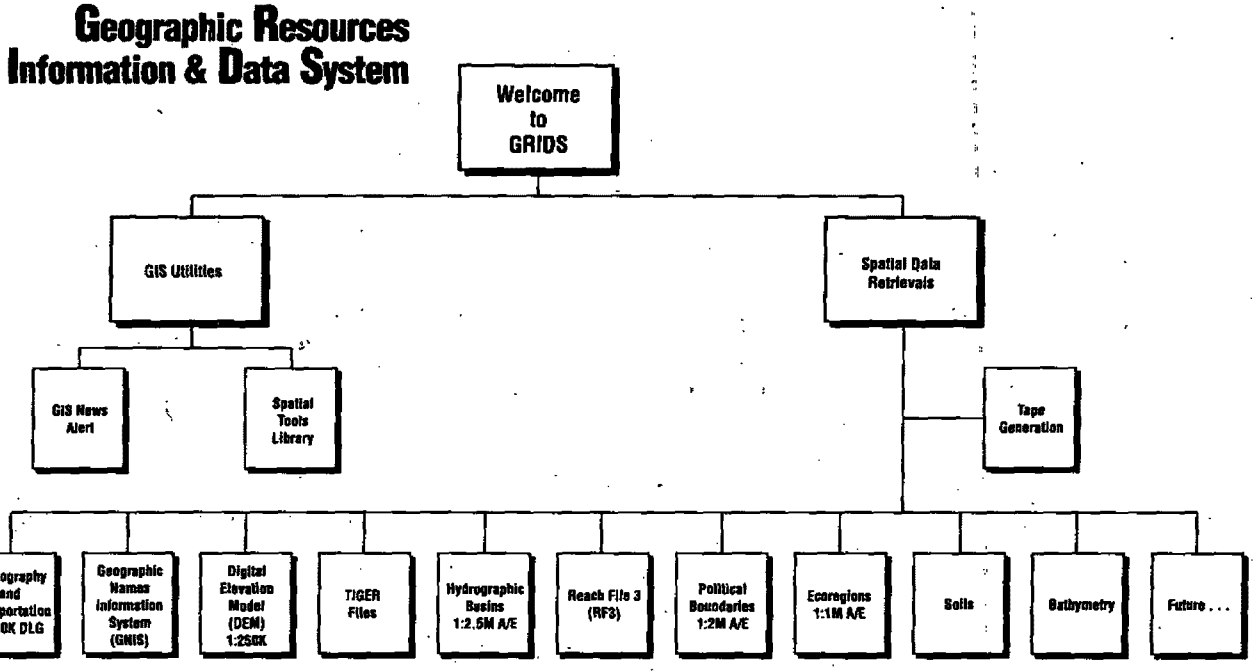
The National GIS Program

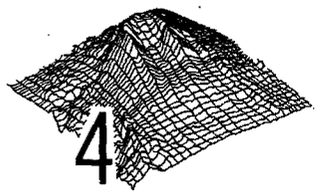
Sophisticated technologies are becoming increasingly available and cost effective in meeting the need for cross-programmatic, multi-media analyses. A National Geographic Information Systems (GIS) Program was established in 1987 to exploit these and other emerging technologies so EPA could better analyze and interpret environmental information. The National GIS Program has established an Agency-wide infrastructure of Regional and Laboratory GIS Teams that enable EPA personnel to assess spatially complex environmental conditions for improved and effective decision making. These multi-disciplinary GIS Teams are available to assist EPA Program Office personnel in defining and supporting all of their spatial data requirements.

The GIS Program promotes GIS training courses, publishes supporting guidance documentation, operates an electronic bulletin board system, and has developed a Geographic Resources Information and Data System (GRIDS) as a central repository for EPA's geographic data bases.

Geographic Resources Information & Data System (GRIDS)

GRIDS was developed to promote data sharing and data integration by providing national access to spatial data for use in GIS applications. GRIDS allows users to select desired subsets of national spatial data sets for creating base map coverages for analyses. GRIDS is available for use by all EPA personnel and other Federal agencies, state, and local governments, and universities when working collaboratively with the EPA.





Locational Data Policy (LDP)

The Agency's Locational Data Policy (LDP) was established in May 1990 to extend environmental analyses and allow data to be integrated based upon location. The LDP requires that latitude and longitude coordinate pairs be collected with all EPA environmental data-gathering activities, thereby promoting the enhanced use of the Agency's extensive data resources for cross-media environmental analyses and management decisions. This policy under-scores the EPA's commitment to establishing the data infrastructure necessary to enable data sharing and secondary data use.

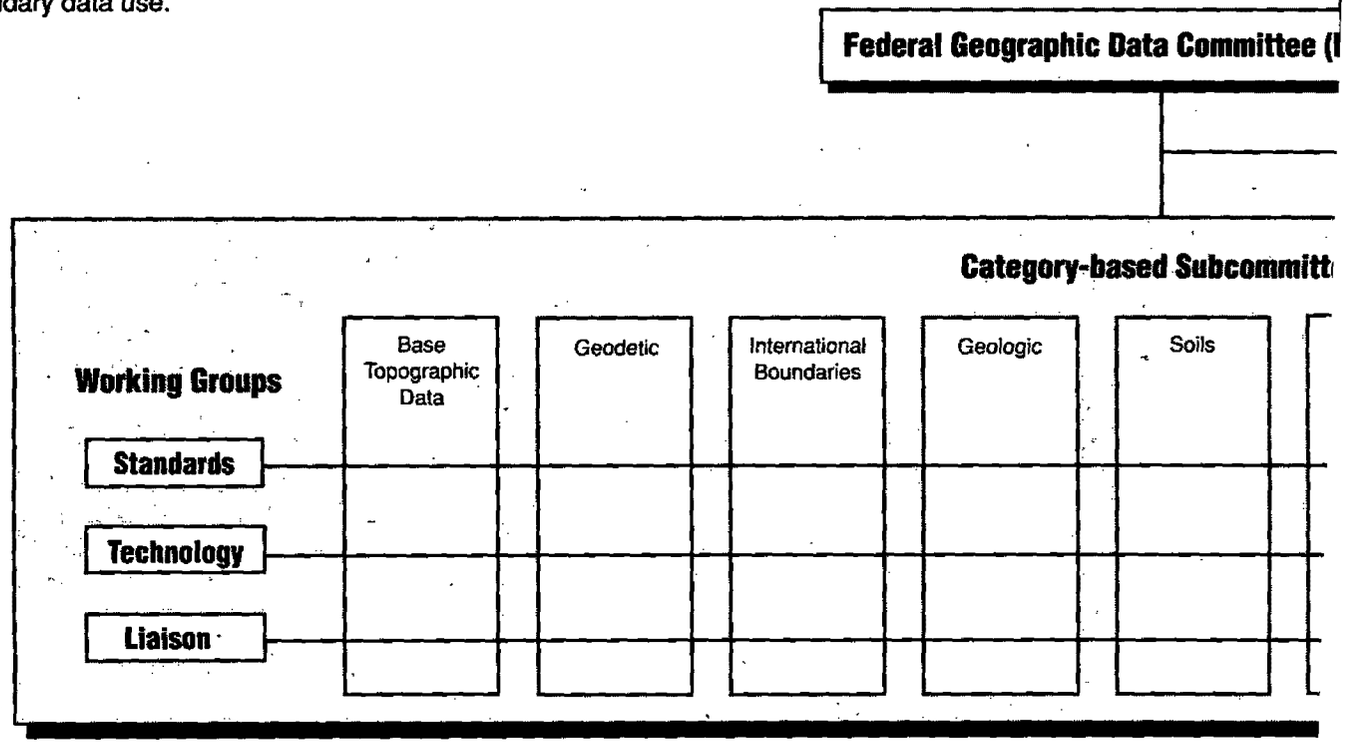
The Federal Geographic Data Committee (FGDC)

The EPA is a charter member of the Federal Geographic Data Committee (FGDC), as established by the October 1990 revision of the Office of Management and Budget Circular A-16. The FGDC is responsible for coordinating the mapping, surveying, and related spatial data activities of the Federal government to minimize the duplication of effort and maximize the benefits of the Federal mapping community. To accomplish this, the FGDC has identified 10 themes or categories of spatial data that will enable map users to more easily determine their needs and provide for improved interagency cooperation. These categories and the responsible Federal agencies include

Base Topographic
U.S. Geological Survey

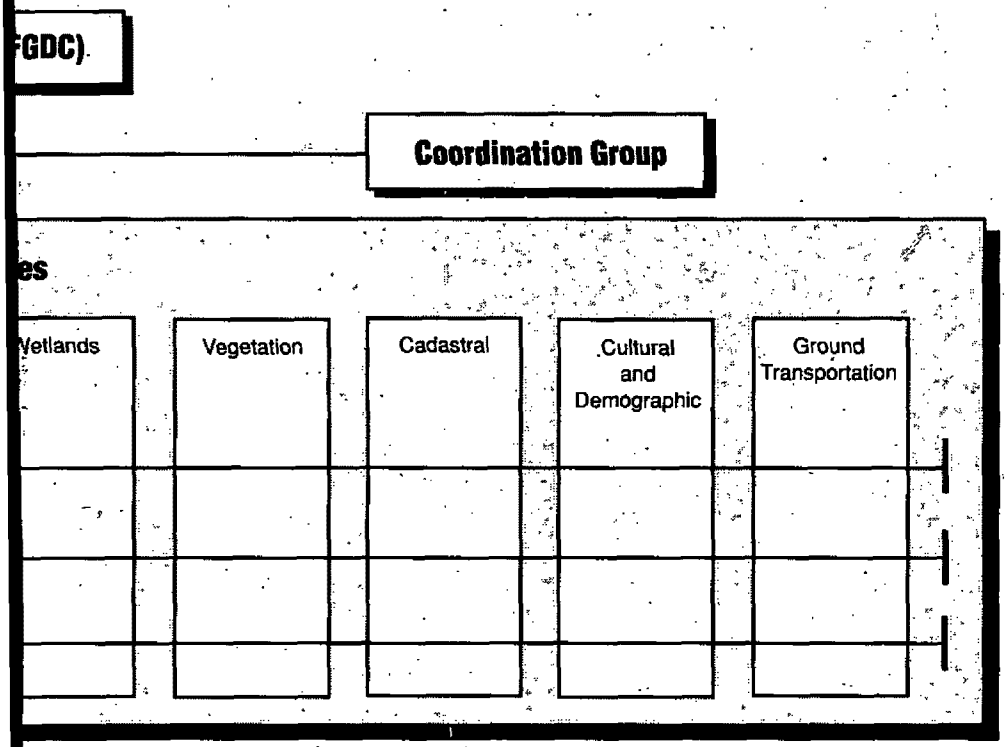
Geodetic
National Geodetic Survey

International Boundaries
Department of State



- **Geologic**
  U.S. Geological Survey
- **Soils**
  Soil Conservation Service
- **Wetlands**
  U.S. Fish and Wildlife
- **Vegetation**
  U.S. Forest Service
- **Cadastral**
  Bureau of Land Management
- **Cultural and Demographic**
  Bureau of the Census
- **Ground Transportation**
  Department of Transportation.

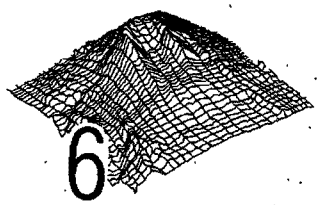
A description of these 10 'basic' categories (as well as Hydrologic), the types of mapping products and services available from the responsible agencies, and the mechanism for acquiring these products, are available to all EPA personnel through the NMRP.



How Can You Access NMRP Services?

Determining Your Mapping Requirements

Before you can acquire the necessary mapping information, you must first identify the most appropriate type of data or mapping product(s) for your needs. The NMRP offers various mechanisms to help you identify your data requirements. The *Resources and Guidance Manual for Identifying and Reporting EPA's Mapping Requirements* was designed by OIRM to assist EPA personnel in determining the appropriate map product and/or technical support necessary for their application. The manual describes and displays the mapping products and services of the U.S. Geological Survey (topographic, geologic, hydrologic) and the capabilities of select EPA Office of Research and Development (ORD) components. The manual is available from the NMRP Manager, EPA's Headquarters Program Offices, Regional libraries, ORD laboratories and facilities, and the Regional GIS Team leaders.



NMRP videotapes are also available to assist you in determining your mapping requirements. The videos are based on a series of national mapping seminars that presented the products and services available to EPA personnel through the USGS. Two versions of the video are available; one version presents a management overview, while the second includes the management segment as well as discussion and examples of topographic, geologic, and hydrologic mapping products of the USGS as they apply to EPA requirements and applications.

NMRP's Acquisition Process

The NMRP acquisition process (see adjacent flow chart) is designed to assist you in defining your spatial data product requirement(s) and direct you toward the most appropriate source for the information. Many of EPA's frequently used mapping products and technical support services currently exist and are available from various Federal and State Mapping authorities. Refer to the *Resources and Guidance Manual* and the accompanying videos for product descriptions and points of contact within the USGS and numerous State mapping organizations.

Submitting a Mapping Request

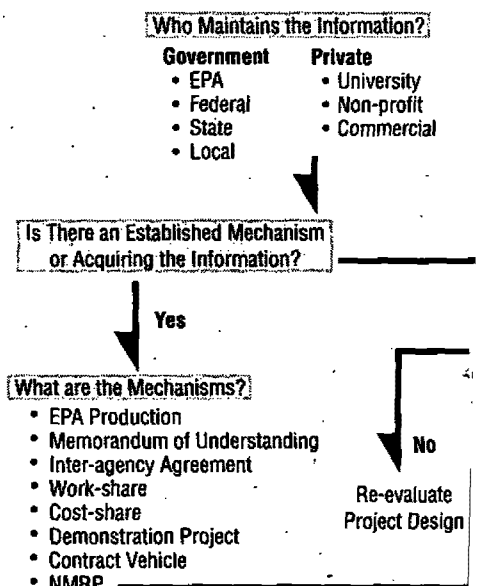
If you have identified a map product that *currently exists* but is not maintained in the EPA data repository (GRIDS), contact the appropriate Federal or State mapping organization which produces the geographic data for information on how to obtain the desired map products.

If a map product does not currently exist, is out of date, or needs revision, you should submit a Mapping Request Form (attached) through the NMRP Manager or the Regional GIS Teams, for review by the responsible Federal agency. EPA's mapping requirements will be compiled with other Federal and State mapping requests, reviewed by the map-producing agency, and prioritized into a production schedule designed to optimize the collective needs of the user community.

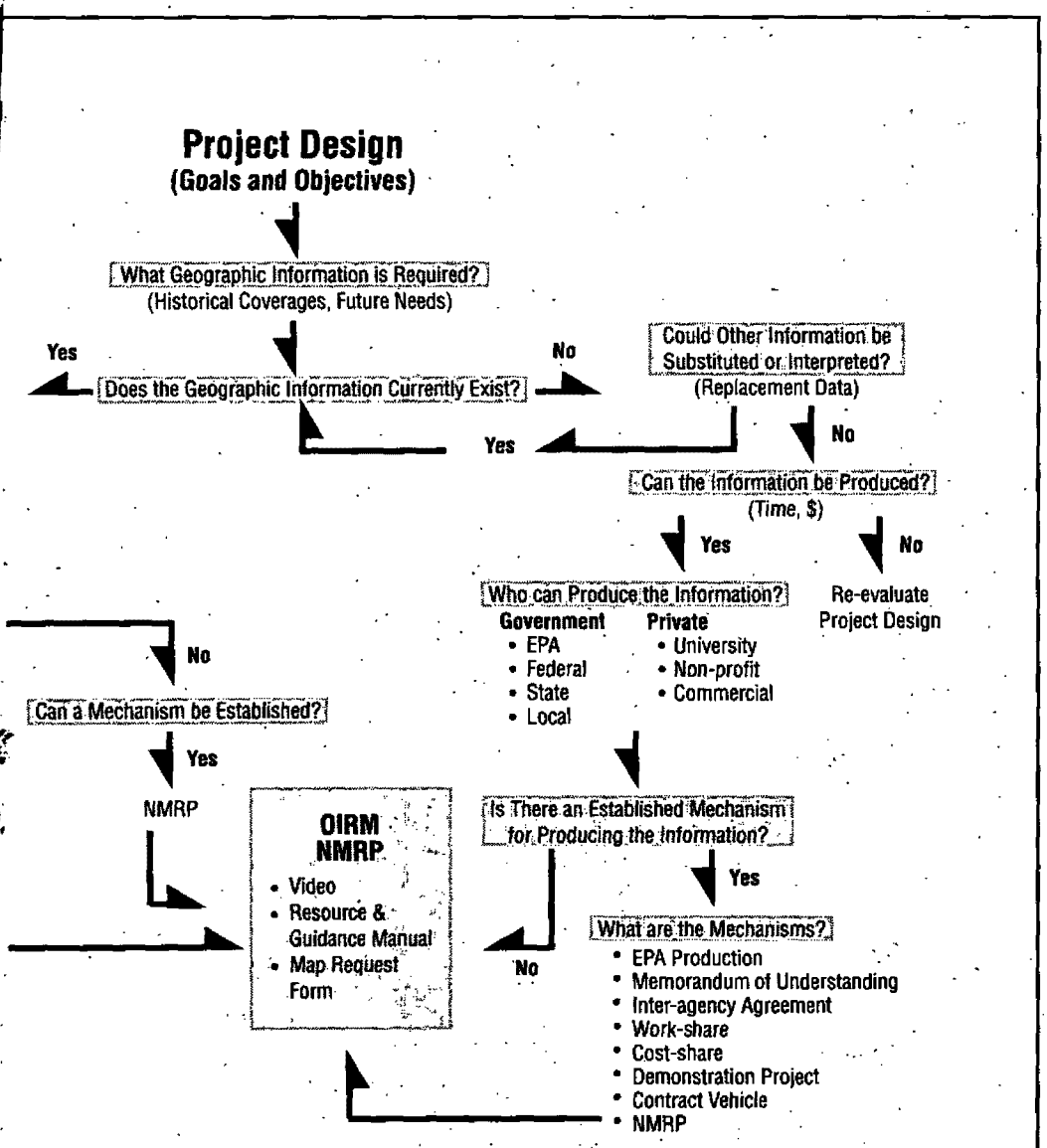
Each requestor will be notified of the production status of his/her individual map request as soon as it is determined by the producing agency. If the map product can be completed within the required time frame, the requestor will be notified when the product is available. If the map request cannot be completed in the necessary time frame, or the map request is a nonstandard or specialty map product, the requestor will be notified to discuss alternative map production opportunities.

Several opportunities are available to the EPA requestor to expedite the map production process. Cost-share and Work-share arrangements can be negotiated with the appropriate Federal organizations to advance the map request priority and production schedule. The NMRP Manager

NMRP's Acquisition Process



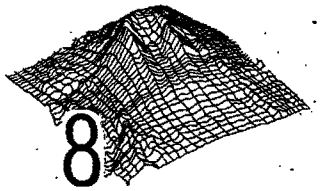
is available to assist all EPA personnel in identifying alternative map production opportunities. The NMRP *is not* a funding mechanism for EPA map submissions. However, the NMRP has established Memoranda of Understanding (MOU) with map production and service organizations for the exchange of technical information and services, including national data bases, in support of EPA's spatial data requirements.



Future Enhancements to the NMRP

The *Resources and Guidance Manual* will be expanded to include a chapter on each of the spatial data categories and respective agencies of the Federal Geographic Data Committee (FGDC). The manual is intended to be a dynamic document that will keep EPA personnel informed of current trends, capabilities, and spatial data products of the Federal mapping community.

Plans are also underway to expand and automate the NMRP Request Form and submission process. When complete, any EPA employee will be able to access the Map Request Form through an electronic Bulletin Board System resident on the Agency's telecommunications network. The EPA user will be able to browse the different map categories and products available, and submit a request for map production consideration.



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The NMRP exists to serve you, the EPA employee. We encourage you to use its resources to improve the quality of our environmental protection.

For further information about NMRP, call **703/883-8533** or write to

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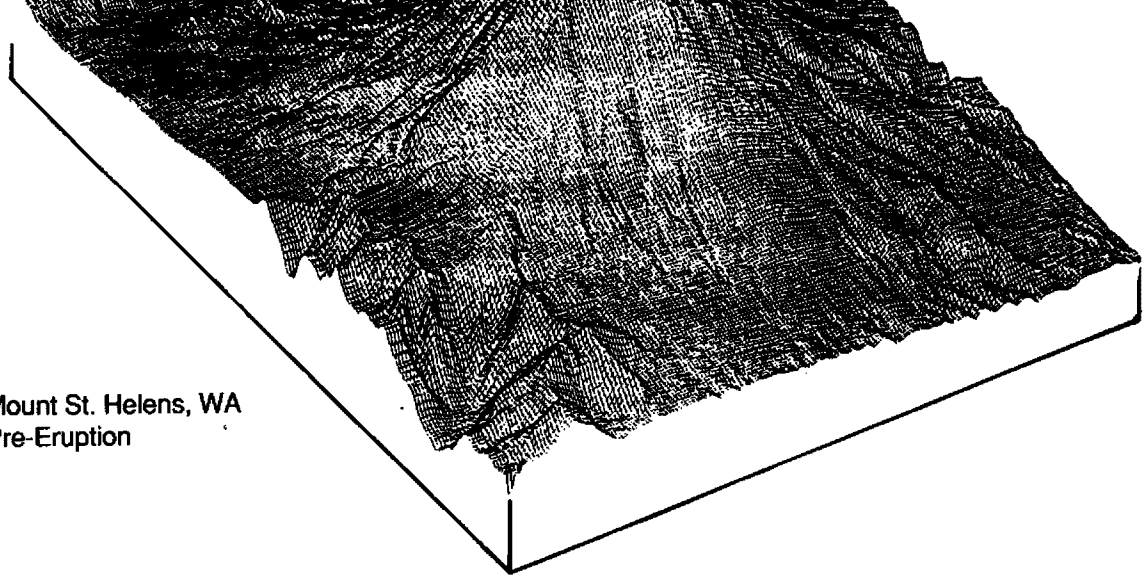
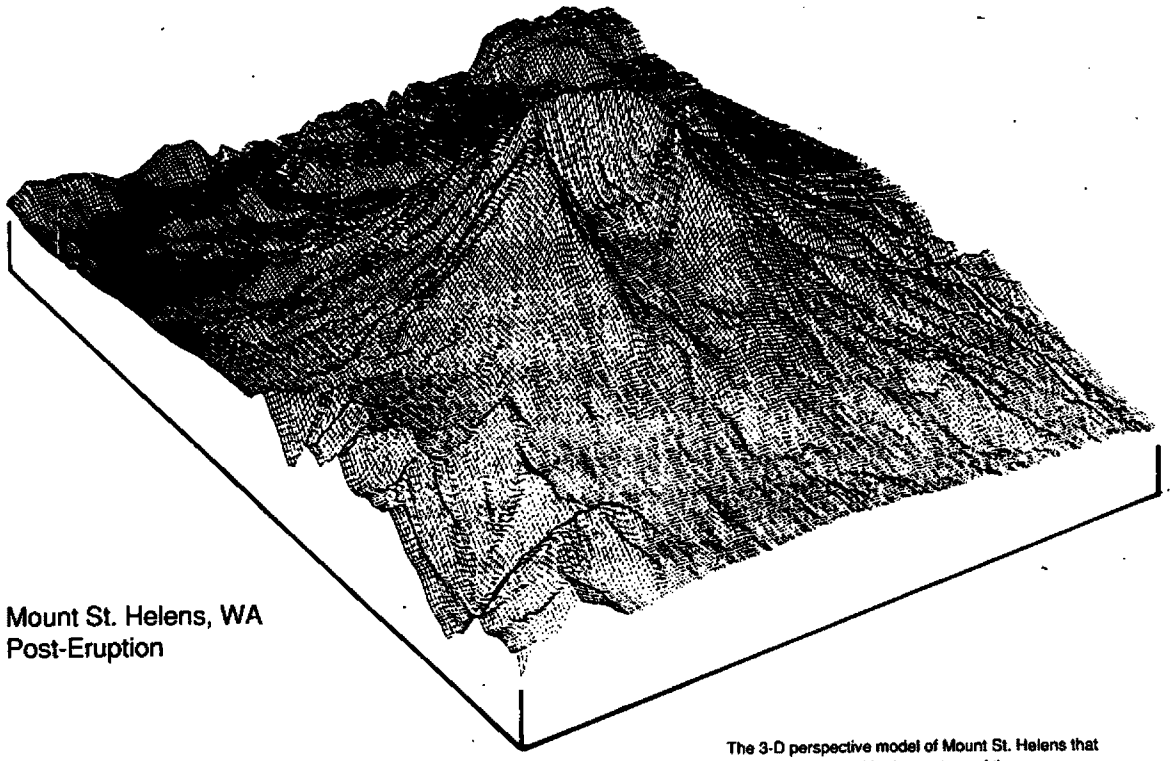


Mount St. Helens, WA
Pre-Eruption



Mount St. Helens, WA
Post-Eruption

The 3-D perspective model of Mount St. Helens that appears in this booklet is courtesy of the U.S. Geological Survey.

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