



# U.S. GEOLOGICAL SURVEY

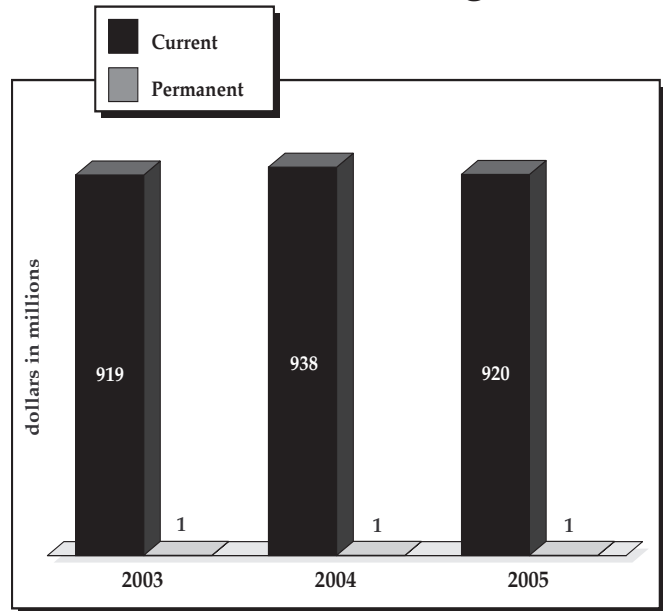
**Mission** – The mission of the U.S. Geological Survey is to provide reliable scientific information to: describe and understand the Earth; minimize loss of life and property from natural disasters; assist others in managing water, biological, and mineral resources; and enhance and protect quality of life.

**Program Overview** – The USGS provides a broad range of national expertise in geography, geology, hydrology, and biology. The USGS places a special emphasis on providing science to the land and resource management bureaus of the Department of the Interior. The USGS hazards programs produce information and understanding of natural hazards, such as earthquakes, that is used to reduce the impacts on human life and the economy. The USGS information on the availability and extraction of mineral, oil, gas, and alternative energy resources is a primary Federal source of objective resource assessments and unbiased research on mineral, oil, gas, and alternative energy potential, production, consumption, and environmental effects. These investigations enable the Nation to make sound decisions regarding significant increases in domestic energy production with an understanding of potential impacts on the environment.

The USGS analyses of the availability and quality of water resources help to develop, regulate, and monitor management practices to ensure the continued availability of water resources for human consumption, agriculture, business, recreation, and environmental stability. The USGS biological studies assist in maintaining healthy ecosystems and natural resources so that these habitats can continue to provide food, energy, medicine, transportation, and recreation. The USGS geography program is expanding its partnerships with Federal agencies and State and local governments to develop and promote use of the geographic data and mapping products that are essential for economic and community development, land and natural resource management, and health and safety services.

To deliver the most accurate, timely, and impartial science possible, the USGS is seeking ways to integrate its diverse programs, capabilities, and talents to address

### USGS Funding



those issues that require a multidisciplinary solution. The USGS also places great value on partnerships and is increasing customer involvement to work collaboratively on issue identification, resource needs, and science solutions. The USGS information about natural and biological science supports informed decisionmaking by land and resource managers at Federal, State, and local levels; by government program managers; by industrial and agricultural corporations; by scientists and academia; and by the public.

**Management Excellence** – The USGS continues to advance the President’s management agenda for improving performance of the Federal government and for practicing the Secretary’s vision for citizen-centered management excellence. This budget proposal supports the Department’s unified strategic plan, specifically in relation to informing decisions through the application of science and advancing knowledge through scientific leadership.

The USGS is taking steps to improve its financial management performance, including initiating actions to implement bureau-wide common business practices and

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obtaining compliance with the Federal Financial Management Improvement Act and, along with other Interior bureaus, preparing for transition to and implementation of the Department's Financial and Business Management System. The USGS is expanding internal control and audit reviews, developing tools to provide program managers with real-time information for financial decisionmaking, improving the interface between the accounting system and systems that support science programs, and developing management reports that support the new USGS organizational structure.

The USGS has developed an integrated program and budget planning process that envelops its increased emphasis on integrated science and ensures continued improvement in the management of programs and funding at local, regional, and national levels. The USGS has begun the implementation of activity-based cost management to assist in this effort and is improving the cost reporting for activities, outputs, and outcomes.

The USGS human capital planning efforts are guiding the implementation of succession planning, competitive sourcing, and other human capital initiatives.

As part of the 2005 budget process, three Geology programs were evaluated using the Performance Assessment Rating Tool. These programs were hazards, minerals resources, and energy resources. New long-term and efficiency performance measures were developed during the review. All three programs were considered to be moderately effective.

**Budget Overview** – The 2005 USGS budget request is \$919.8 million in current appropriations, a decrease of \$18.2 million below the 2004 enacted level. This includes \$16.1 million in new and expanded programs, many of which are partnership oriented.

**Partnerships** – Partnerships are a crucial part of USGS science. The USGS works in close cooperation with more than 2,000 Federal, State, tribal, and local governmental agencies, private sector companies, and non-profit organizations across the country. Partnerships provide highly effective means for leveraging resources among many contributors and for bringing a greater wealth of knowledge, expertise, and capability to bear on important land and resource management issues.

**Science for Interior Bureaus** – The 2005 President's budget request continues the Administration's commitment to strengthen science support to the land and resource management bureaus by proposing a \$1.2 million increase for science on the Interior landscape. This program will provide funds for enhanced earth and biological sciences

to meet the needs of Interior's bureaus, with an emphasis on cost-sharing and other partnership opportunities to leverage funds.

**Geography (formerly Mapping)** – The 2005 budget continues to support the transition of the Geography program toward leadership in geospatial data standards, data consistency, data integration, and partnerships for data collection, maintenance, and dissemination. The program is funded at \$118.9 million and includes an \$8.6 million transfer to the Enterprise Information program and a \$1.9 million decrease in appropriated partnership funding for the National Map. During 2004, 150 employees accepted the USGS buyout offer to Geography employees. The estimated savings of \$9.0 million in 2005 will be available to offset reductions for developing and enhancing partnerships for the National Map, as well as for developing the science and applications needed to promote geographic integration and analysis and providing access to tools for specific applications and modeling. Some of the savings may also be applied towards land remote sensing needs.

**Geology** – The USGS produces objective and reliable earth science information on geologic hazards, resources, and processes in an efficient manner that does not compete with the roles and responsibilities of universities and the private sector. The USGS provides a unique source of multi-purpose geologic maps depicting the Nation's sediment and rocks, which are vital to the exploration and development of mineral, energy, and water resources. The 2005 President's budget provides \$220.8 million for Geology including a \$4.3 million transfer to the Enterprise Information program, and an \$11.1 million reduction for earmarks and in lower priority efforts. The 2005 budget also includes an \$800,000 increase in earth observation and monitoring to expand the current InSAR monitoring past the pilot stage into a national monitoring capability and \$500,000 for geothermal assessments.

**Water Resources** – The 2005 budget proposes \$202.7 million to continue the water resources work performed by USGS. This funding level includes a technical adjustment of \$4.0 million for Enterprise Information and a reduction of \$5.8 million in lower priority efforts. Other programmatic changes within Water Resources include an increase of \$1.0 million for research into the water quality in the Klamath basin. The budget also reflects a \$6.4 million reduction for Water Resources Research Institutes, which have been generally successful in generating funds from non-USGS sources and should be self-supporting.

**Biological Research** – The 2005 budget requests \$167.6 million for biological research and proposes expanding biological research programs to find solutions and assist

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in the mitigation of biological resource problems facing Federal agencies and State, local, and tribal governments. The budget proposes transferring \$2.9 million to the Enterprise Information program and reductions of \$7.7 million for unrequested earmarks, including a \$2.8 million reduction in fire science, as fire ecology and biological fire science activities will be funded through the Department's Wildland Fire Management account.

The budget includes increases of \$1.0 million for research into the population dynamics and behavioral ecology of suckers in Klamath basin and \$1.0 million for invasive species research into innovative controls and methodologies for the Asian carp as well as research into the early detection and control of the brown tree snake. Additionally, \$500,000 is requested for a USGS-FWS partnering effort to meet crucial needs through the deepwater fishery science large vessels program in the Great Lakes; and \$250,000 is requested to begin an ecological mapping effort which would benefit Interior land and resource managers and State natural resource agencies.

**Enterprise Information** – The 2005 budget establishes an Enterprise Information organization within the USGS to allow for a more effective use of resources, a higher degree of accountability, and a more successful deployment and use of technology throughout the bureau. The proposed change will consolidate the funding and management of all bureau-wide information technology, management, and service functions that were previously distributed throughout the bureau. This organization will be funded as a separate budget activity totaling \$45.1 million.

The Enterprise Information program is comprised of \$46.7 million transferred from the other science disciplines, offset by a \$5.3 million decrease that reflects the completion of narrowband radio purchases, accomplishments in some certification and accreditation milestones, and a decrease in accessible data transfer funding. An increase of \$2.5 million is requested to strengthen the overall

USGS information technology security program and to fund Disaster.gov, a government-wide disaster information system. An increase of \$1.2 million is requested for implementing a Department-wide Enterprise Services Network. The Department is migrating its portfolio to enterprise business processes and technologies. A key component of successful implementation of this strategy is the Enterprise Services Network, a modern, integrated network backbone that will provide the infrastructure to integrate resources within the Department.

**Science Support** – The 2005 budget requests \$68.7 million for Science Support. This includes a \$27.2 million transfer to the Enterprise Information program and a \$2.7 million increase to improve the financial management practices of the bureau. Accurate and timely financial information is needed to ensure the best performance and the highest measure of accountability. One of the highest priorities of the USGS 2005 budget request is the improvement of USGS financial management practices in response to recent audit reports. The requested increase would address material weaknesses cited in these audit reports and improve the overall financial management of the bureau.

**Uncontrollable Costs** – Uncontrollable cost increases total \$17.2 million, of which \$9.1 million are budgeted and \$8.1 million are absorbed.

**Other Program Changes** – The request includes a decrease of \$697,000 for anticipated savings related to improved fleet management and a \$565,800 million increase to fully fund financial statement audit costs previously funded in part by the OIG.

An increase of \$419,000 supports implementation of the Administration's high-payoff e-government initiatives to integrate agency operations and information technology investments. These initiatives eliminate redundant systems and significantly improve the government's quality of customer service for citizens and businesses.

**SUMMARY OF BUREAU APPROPRIATIONS**  
(all dollar amounts in thousands)

*Comparison of 2005 Request with 2004 Enacted:*

	2004 Enacted		2005 Request		Change from 2004	
	FTE	Amount	FTE	Amount	FTE	Amount
Appropriations						
Surveys, Investigations, & Research .....	6,387	937,984	6,356	919,788	-31	-18,196
Permanents, Trust Funds, & Others						
Operations & Maintenance of Quarters.....	0	48	0	48	0	0
Contributed Funds.....	0	737	0	737	0	0
Working Capital Fund.....	223	0	229	0	+6	0
Subtotal, Permanents, Trust Funds, & Others.....	223	785	229	785	+6	0
Transfers & Reimbursables .....	2,797	0	2,797	0	0	0
<b>TOTAL, U. S. GEOLOGICAL SURVEY.....</b>	<b>9,407</b>	<b>938,769</b>	<b>9,382</b>	<b>920,573</b>	<b>-25</b>	<b>-18,196</b>

**HIGHLIGHTS OF BUDGET CHANGES**  
By Appropriation Activity/Subactivity

**APPROPRIATION: Surveys, Investigations and Research**

	2003 Actual	2004 Enacted	2005 Request	Change from 2004 Enacted
Mapping, Remote Sensing, & Geographic Investigations				
Cooperative Topographic Mapping .....	81,120	80,843	71,048	-9,795
Land Remote Sensing .....	35,711	33,678	33,132	-546
Geographic Analysis/Monitoring .....	16,374	15,238	14,761	-477
Subtotal, Mapping.....	133,205	129,759	118,941	-10,818
Geologic Hazards, Resource, & Processes				
Geologic Hazards Assessments .....	74,990	75,283	73,007	-2,276
Geologic Landscape/Coastal Assess....	78,698	78,351	75,230	-3,121
Geologic Resource Assessments .....	79,479	80,549	72,517	-8,032
Subtotal, Geologic Hazards .....	233,167	234,183	220,754	-13,429
Water Resources Investigations				
Hydrologic Monitor, Assess, & Rsch....	136,755	145,297	139,675	-5,622
Cooperative Water Program.....	64,433	63,995	63,007	-988
Water Resources Rsch Act Program .....	5,963	6,421	0	-6,421
Subtotal, Water Resources.....	207,151	215,713	202,682	-13,031
Biological Research				
Biological Research/Monitoring.....	132,133	135,110	129,226	-5,884
Biological Info Mgmt/Delivery .....	22,787	24,662	24,265	-397
Cooperative Research Units .....	14,896	14,757	14,113	-644
Subtotal, Biological Research.....	169,816	174,529	167,604	-6,925
Enterprise Information				
Enterprise Info Security & Tech .....	0	0	22,498	+22,498
Enterprise Information Resources .....	0	0	17,233	+17,233
Federal Geographic Data Coord .....	0	0	5,416	+5,416
Subtotal, Enterprise Information .....	0	0	45,147	+45,147

	2003 Actual	2004 Enacted	2005 Request	Change from 2004 Enacted
Science Support .....	85,177	90,811	68,716	-22,095
Facilities .....	90,756	92,989	95,944	+2,955
TOTAL APPROPRIATION .....	919,272	937,984	919,788	-18,196

### Highlights of Budget Changes

	Amount
Uncontrollable Costs	[+17,174]
Mapping, Remote Sensing, and Geographic Investigations	
Cooperative Topographic Mapping	-9,795
<p>The budget proposes a decrease (-\$1,887) to reduce funding for data collection associated with the National Map, as the Survey is moving away from actual data collection. A decrease (-\$351) is proposed for savings resulting from organizational restructuring and (-\$247) for State of Tennessee geographic information. The budget reflects a transfer (-\$7,795) to the new Enterprise Information budget activity. Uncontrollable costs total \$1,335, of which \$485 are budgeted and \$850 are absorbed.</p>	
Land Remote Sensing	-546
<p>The budget proposes decreases for savings resulting from organizational restructuring (-\$59) and reflects a transfer (-\$567) to the new Enterprise Information budget activity. Uncontrollable cost increases total \$220, of which \$80 are budgeted and \$140 are absorbed.</p>	
Geographic Analysis and Monitoring	-477
<p>The budget proposes decreases (-\$247) for the State of Tennessee's GIS base mapping program and (-\$73) for savings resulting from organizational restructuring. The budget reflects a transfer (-\$257) to the new Enterprise Information budget activity. Uncontrollable costs total \$275, of which \$100 are budgeted and \$175 are absorbed.</p>	
Geologic Hazards, Resources and Processes	
Geologic Hazard Assessments	-2,276
<p>The budget proposes a decrease (-\$1,742) for volcano monitoring at Mauna Loa and in the Western Aleutians. The budget also proposes an increase (+\$800) for InSAR (Interferometric Synthetic Aperture Radar) monitoring for selected volcanoes. The budget proposes a decrease (-\$253) for savings resulting from organizational restructuring and (-\$22) for savings resulting from improved management of the USGS motor vehicle fleet. The budget reflects a transfer (-\$1,369) to the new Enterprise Information budget activity. Uncontrollable costs total \$864, of which \$310 are budgeted and \$554 are absorbed.</p>	
Geologic Landscape and Coastal Assessments	-3,121
<p>The budget includes decreases for an Asian and African dust particle study (-\$247) and the Tampa Bay project (-\$1,504) that will transition the pilot to a smaller operational program. The budget also redirects \$200 from within base from lower priority projects to increase funding in the National Cooperative Geologic Mapping Program for Water 2025.</p> <p>This subactivity also includes a decrease (-\$251) for savings resulting from organizational restructuring and (-\$22) for savings resulting from improved management of the USGS motor vehicle fleet. The budget reflects a transfer (-\$1,439) to the new Enterprise Information budget activity. Uncontrollable costs total \$955, of which \$342 are budgeted and \$613 are absorbed.</p>	
Geologic Resource Assessments	-8,032
<p>The budget proposes a decrease (-\$6,493) for the Minerals Resources program that will discontinue or reduce eight lower priority projects for research and assessments; three lower priority projects on aggregates and industrial minerals; the USGS funding for the Alaska Minerals Information project; reporting on mineral commodities; and lower priority mineral resource assessment studies in Clark County, Nevada. The budget proposes a decrease (-\$889) to end lower priority work on the Tongue River watershed in Montana and Wyoming. The budget also reduces (-\$296) the Kansas well log inventory, as it will be completed in 2004.</p>	

Proposed increases (+\$500) in the Energy program would begin a multi-year effort to update a national assessment of geothermal resources and support the Science on the DOI Landscape initiative (+\$501). This subactivity also includes a decrease (-\$337) for savings resulting from organizational restructuring and (-\$23) improved management of the USGS motor vehicle fleet. The budget reflects a transfer (-\$1,453) to the new Enterprise Information budget activity. Uncontrollable costs total \$1,281, of which \$458 are budgeted and \$823 are absorbed.

#### Water Resources Investigations

##### Hydrologic Monitoring, Assessments and Research

-5,622

The budget proposes increases (+\$375) in Ground-Water Resources to provide support for the Science on the DOI Landscape initiative and (+\$800) to implement a new five-year initiative concerned with water availability and use, which is related to the Bureau of Reclamation's Water 2025 initiative. The budget also proposes an increase (+\$200) for improving the National Water-Quality Assessment Program's SPARROW model. The proposed decreases in Toxic Substances Hydrology (-\$1,481) will end lower priority studies of the Roubidoux aquifer, the efficiency of mercury methylation in South Carolina rivers (-\$50), and a lower priority project that addresses petroleum related contamination of the Nation's water resources (-\$518). The proposed decrease in Hydrologic Research and Development will end several lower priority projects: a study at Berkeley Pit Lake (-\$198), enhanced water-quality monitoring in Lake Pontchartrain (-\$592), a study of ground-water in the Potomac River Basin (-\$401), a study with the States of Washington and Oregon of the Rathdrum Prairie/Spokane Valley aquifer system (-\$494), some work underway in the Chesapeake Bay program (-\$247), Delaware River flow modeling (-\$247), and a fish mortality study in Hood Canal, Washington (-\$346). The budget proposes an increase in Hydrologic Networks and Analysis (+\$1,000) for studies at Klamath Lake. The budget proposes decreases to reduce expanded water-quality monitoring for mercury and other substances in Lake Champlain (-\$295), and reduce expanded monitoring of water resources in Hawaii (-\$444). This subactivity also includes decreases (-\$487) for savings resulting from organizational restructuring and (-\$266) for savings resulting from improved management of the USGS motor vehicle fleet. The budget reflects a transfer (-\$2,888) to the new Enterprise Information budget activity. Uncontrollable costs total \$2,621, of which \$957 are budgeted and \$1,664 are absorbed.

##### Cooperative Water Program

-988

This subactivity includes decreases (-\$254) for savings resulting from organizational restructuring and (-\$117) for savings resulting from improved management of the USGS motor vehicle fleet. The budget reflects a transfer (-\$1,073) to the new Enterprise Information budget activity. Uncontrollable costs total \$1,249, of which \$456 are budgeted and \$793 are absorbed.

##### Water Resources Research Act Program

-6,421

The proposed decrease (-\$6,421) eliminates USGS funding for each of the 54 State Water Resources Research Institutes that have been generally successful in generating non-Federal sources of funding and should be able to support themselves.

#### Biological Research

##### Biological Research and Monitoring

-5,884

Proposed increases include funding (+\$250) for ecological mapping; (+\$500) for the Great Lakes deepwater fisheries large vessels program; (+\$1,000) for research within the Klamath River Basin, (+\$350) to provide support for the Science on Interior's Landscape initiative; (+\$1,000) to support invasive species work in brown tree snake control and innovative control methodologies for Asian carp; and (+\$500) to conduct research related to carbon trading and storage in the Northern Prairie wetlands area. A decrease (-\$2,766) for on-going USGS fire ecology and biological fire science is also proposed, as well as (-\$4,495) for unrequested earmarks for lower priority studies for Mark Twain National Forest, pallid sturgeon research, diamondback terrapins, the grizzly bear population in Montana, the ground water supply at Leetown Science Center, fishery genetics research in the Northeast and Mid-Atlantic regions, a Lake Tahoe decision support system, and Manatee research. Additional proposed reductions in the budget include funding for (-\$477) savings resulting from organizational restructuring and (-\$143) for savings resulting from improved management of the USGS motor vehicle fleet. Technical adjustments include the movement of funding (-\$107) for vessel operations from Biological Research and Monitoring to Facilities. The budget also reflects a transfer (-\$2,219) to the new Enterprise Information budget activity. Uncontrollable costs total \$2,001, of which \$723 are budgeted and \$1,278 are absorbed.

	<u>Amount</u>
<p>Biological Information Management and Delivery</p> <p>A proposed decrease in the budget is for (-\$72) savings resulting from organizational restructuring. The budget also reflects a transfer (-\$386) to the new Enterprise Information budget activity. Uncontrollable costs total \$168, of which \$61 are budgeted and \$107 are absorbed.</p>	-397
<p>Cooperative Research Units</p> <p>The budget proposes decreases to eliminate funds for the Nebraska Cooperative Research Unit (-\$395) and to reflect savings resulting from organizational restructuring (-\$53) and improved management of the USGS motor vehicle fleet (-\$104). The budget reflects a transfer (-\$189) to the new Enterprise Information budget activity. Uncontrollable costs total \$268, of which \$97 are budgeted and \$171 are absorbed.</p>	-644
<p>Enterprise Information</p> <p>Enterprise Information Security and Technology</p> <p>Proposed increases to the budget include funding (+\$1,800) for enterprise information that would enable the USGS to modernize and centrally support security program management and oversight; and funding (+\$1,200) in support of the Department-wide implementation of the Enterprise Services Network. These increases are offset by decreases to reflect the completion of the conversion of wideband radios to digital narrowband radios (-\$3,877); the completion of certification and accreditation milestones (-\$895); and reduced funding (-\$592) for the accessible data transfer network. The budget reflects a transfer (+\$24,780) to establish the Enterprise Information Security and Technology subactivity within the new Enterprise Information budget activity. This new subactivity consolidates existing information technology functions within the USGS. Uncontrollable costs total \$223, of which \$82 are budgeted and \$141 are absorbed.</p>	+22,498
<p>Enterprise Information Resources</p> <p>The budget proposes an increase (+\$5) for an e-records management project. The budget reflects a transfer (+\$17,168) to establish the Enterprise Information Resources subactivity within the new Enterprise Information budget activity. This new subactivity consolidates existing information technology functions within the USGS. Uncontrollable costs total \$162, of which \$60 are budgeted and \$102 are absorbed.</p>	+17,233
<p>Federal Geographic Data Coordination</p> <p>The budget proposes an increase (+\$680) for a disaster.gov project and a transfer (+\$4,726) to establish the Federal Geographic Data Coordination subactivity within the new Enterprise Information budget activity. Uncontrollable costs total \$27, of which \$10 are budgeted and \$17 are absorbed.</p>	+5,416
<p>Science Support</p> <p>The proposed budget provides increases for (+\$2,700) financial management improvements; (+\$405) competitive sourcing; (+\$566) funding the annual audit; and (+\$414) for e-gov initiatives. This sub-activity also includes a decrease (-\$311) in savings resulting from organizational restructuring. The budget reflects a transfer (-\$27,039) to the new Enterprise Information budget activity and a technical adjustment (-\$167) for services billed through the Departmental Working Capital Fund. Uncontrollable costs total \$1,963, of which \$1,337 are budgeted and \$626 are absorbed.</p>	-22,095
<p>Facilities</p> <p>Uncontrollable costs total \$3,562, of which \$3,507 are budgeted and \$55 are absorbed. The budget proposes a technical adjustment (+\$107) to transfer associated funding for additional expenses and operation and maintenance of large vessels from Biological Research to the Facilities Budget Activity. The budget also proposes an increase (+\$527) for deferred maintenance and capital improvements and decreases for unanticipated construction costs at the Leetown Science Center (-\$198) and for repairs at the Tunison Laboratory (-\$988).</p>	+2,955