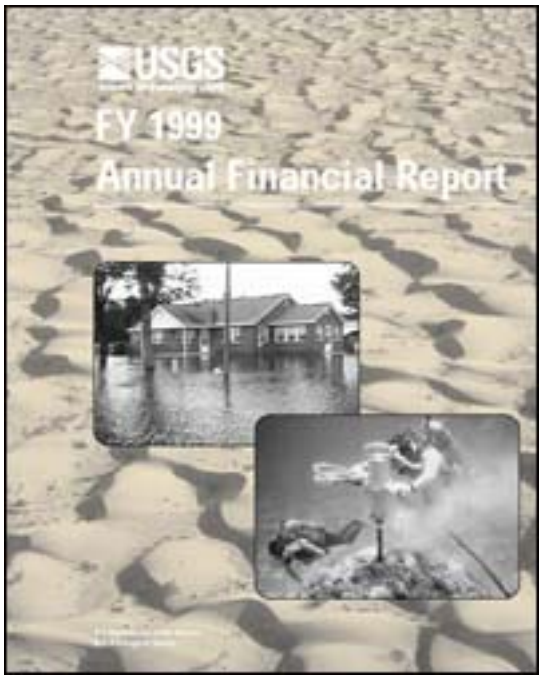
U.S. Geological Survey
FY 1999 Annual Financial Report



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U.S. Geological Survey

Your source for science you can use

As an unbiased, multi-disciplinary science organization that focuses on biology, geography, geology, geospatial information, and water, we are dedicated to the timely, relevant, and impartial study of the landscape, our natural resources, and the natural hazards that threaten us.

Science Topics

GO Browse Science Topics

A tool for browsing USGS science programs and activities.

Sample Topic:

Industrial pollution

Introduction of harmful substances into the environment by manufacturing, power generation, mining, or material processing.

Featured Topics

Mercury Rises as a Hot Science Topic

USGS scientists work to improve information on mercury sources, cycling, and toxicity, which will help land and resource managers understand what can be done to reduce mercury hazards to people and the environment. The large geographic scope and consequences of mercury contamination and enormous complexity of the problem require a scientific approach that integrates many scientific disciplines. Learn More

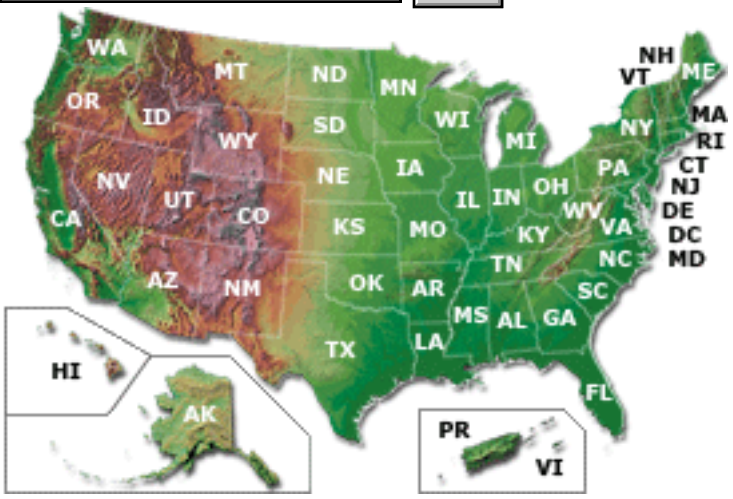
USGS Science at Ecological Society of America

Invasive species, wildlife disease, and the effect of hurricanes on ecosystems are among the many and diverse topics that scientists of the USGS will discuss as they meet with other leading ecological scientists, educators, and policy-makers from around the globe at the 91st annual Ecological Society of America meeting. Learn More

Where's Walrus? A new

Science In Your Backyard

Select your State GO



See also:

Ecosystems | Coastal/Offshore | International

USGS animation shows walrus movements in the northern Bering Sea—the USGS led an effort to tag walruses with transmitters and track their movements remotely with satellites during a spring 2006 population abundance survey. Learn More

Collaborative Commemoration of the Big Thompson Flood

On July 31, 2006, USGS scientists and its partners from local, State, and Federal agencies will commemorate the 30th anniversary of the Big Thompson flood, which ranks among the deadliest of Colorado's recorded floods. It is also considered one of the largest floods based on the drainage area in the United States and stresses the necessity of continuing research into the causes and effects of floods. The USGS conducts research and operates a nationwide streamgage network to reduce flood hazards and to increase public awareness. Learn More

Featured Topics Archive

In the Spotlight

[FY 2007 President's Budget Request for USGS]

[Avian Influenza (Bird Flu)]

[ABC Movie on Bird Flu Pandemic - Fact or Fiction?]

[U.S. Interagency Strategic Wild Bird Monitoring Plan]

[USGS Alaska Avian Influenza Website]

[The Future of Land Imaging]

[U.S. Water Monitor]

[USGS Peer Review Agenda]

[River and Streamflow News]

Additional Resources

Recent News Releases

RSS

[USGS Report Identifies Asbestos Localities in Central U.S.] NEW
(Released: 8/8/2006 6:24:02 AM)

[USGS Science at Ecological Society of America] NEW
(Released: 8/7/2006 10:46:04 AM)

[USGS at 2006 International Mercury Conference] NEW
(Released: 8/4/2006 2:11:12 PM)

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- [Select a Hazard]
  - [Intro]
  - [Earthquakes]
  - [Floods]
  - [Hurricanes]
  - [Landslides]
  - [Tsunamis]
  - [Volcanoes]
  - [Wildfires]

Natural Hazards

Access activities and [real-time information] via the [Natural Hazards Gateway]. CAP

Latest Information:

[Recent Earthquakes]

[Latest Hurricane Updates]

[WaterWatch - Current Streamflow Conditions]

[Mount St. Helens -- Latest Update]

[Kilauea - Latest Update]

USGS Publications

Map and Geospatial Information

- BEST Database Query Tool
- Gap Analysis Data Warehouse
- GeoMAC Wildland Fire Support
- Geospatial One-Stop
- Geographic Names Information System
- Remote Sensing - EROS
- National Atlas of the United States®
- NBII Metadata Clearinghouse
- Mineral Resources Spatial Data
- Seamless Data Distribution System
- The National Map

More Map and Geospatial Information

Frequently Asked Questions RSS

How can I find and get historic USGS topographic maps?

What are the file formats for the National Atlas map layers and data tables?

What is Landsat 7?

More FAQs

Coastal Circulation and Sediment Dynamics in Hanalei Bay, Kaua'i, Hawaii, Part III, Studies of Sediment Toxicity
(Released: 8/6/2006)

USGS Mineral Resources Program--Supporting Stewardship of America's Natural Resources
(Released: 8/6/2006)

USGS Interactive Map of the Colorado Front Range Infrastructure Resources
(Released: 8/4/2006)

More Publications

USGS Library

- Search the catalog

Fact of the Day

Lava from the eruption of Kilauea has covered about 40 square miles of rain forest and grassland, paved 8 miles of highway, destroyed 181 homes and other structures valued at $61 million, and added almost 600 acres of new land to the Island of Hawaii. In addition, the release of sulfur dioxide gas during the ongoing eruption has led to volcanic air pollution and acid rain on parts of the island.

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USGS
science for a changing world

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U.S Department of the Interior
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Left cover photograph. Flooding in North Carolina caused by Hurricane Floyd in September 1999. The hurricane affected the Eastern United States from South Carolina to New York. Information from USGS streamgages helped people evacuate areas and move property before floods peaked. After Hurricane Floyd, USGS scientists sampled flooded areas to check levels of bacteria, sediments, heavy metals, chemicals, and other contaminants.

Right cover photograph. Archival photograph showing traditional method of collecting data on coral reefs, which provide critical habitats for recreational and commercial fisheries and which act as barriers against destructive waves. In April 1999, U.S. Geological Survey scientists began field studies of coral reefs along the south coast of Molokai'i in the Hawaiian Islands. These studies are mapping the complex reef system around the Hawaiian Islands and are determining how land-derived sediment and other factors affect the health of the reefs. The project is using both traditional and innovative data-collection and mapping methods, such as state-of-the-art laser imaging.

Cover background. Dunes in the Algodones Sand Sea of southeastern California (photograph by Peter Kresan). The United States climate has extremes of dryness and wetness caused by global air circulation patterns.

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U.S. Geological Survey

U.S. DEPARTMENT OF THE INTERIOR
BRUCE BABBITT, Secretary

U.S. GEOLOGICAL SURVEY
CHARLES G. GROAT, Director

Published in December 2000.

For more information about the U.S. Geological Survey and its products:

Telephone: 1–888–ASK–USGS
World Wide Web: http://www.usgs.gov

Message from the Director

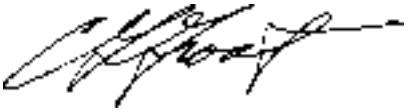
When I joined the U.S. Geological Survey (USGS) at the beginning of FY 1999, I began to establish some priorities for changes that will enhance the leadership and effectiveness of the USGS. On the basis of discussions with various groups within and outside the USGS, the following are my priorities for the next few years:

Charles G. Groat

- ONE MISSION, ONE BUREAU—Build a strong sense of bureau identity and commitment to bureauwide goals among USGS leaders and staff.
- Increase the profile of the USGS and its science in all sectors of the United States.
- Substantially increase funding levels to support program growth and enhancement of the permanent staff with a diverse cadre of young scientists.
- Bring all facets of USGS science and communication skills to bear on gaining an integrated understanding of complex earth and life systems and the causes and rates of changes affecting them.
- Make significant progress toward a national real-time hazard warning system.
- Increase the ability of our scientists to work together by eliminating business-practice and operational barriers to cooperation and by implementing budget and management structures that encourage rather than hinder integrated programs.
- Improve our interaction with customers and partners and the effectiveness of regional integrated programs by giving increased program authority, responsibility, and resources to USGS regions and regional centers.
- Improve the effectiveness and efficiency of leadership and management and reduce the time and dollars spent in meetings and traveling to them.

I categorically believe that high-quality, objective, credible research and information are our most important products. These fundamental strengths were illustrated during FY 1999 in response to natural hazards. Specifically, the USGS provided crucial scientific data for the Nation's response to four devastating hurricanes—Bonnie, Georges, Mitch, and Floyd. We continue to provide data for coastal erosion affecting communities in the Pacific Northwest and flooding throughout the country. The right scientific information, made available in a timely way, helped organizations and local governments to save lives and reduce the costs of these natural disasters.

The USGS mission is to serve the Nation by providing reliable scientific information to describe and understand the Earth; to minimize loss of life and property from natural disasters; to manage water, biological, energy, and mineral resources; and to enhance and protect our quality of life. To be successful, our science must be effectively communicated to people who need the information, and this report shows our continued progress in meeting our goals.



Charles G. Groat
Director

Purple loosestrife, widely used in gardens and commonly sold in nurseries, is an aggressive invader in wetlands, where it can destroy marshes and choke waterways. Shown here, the Director of the U.S. Geological Survey (in white slacks), USGS staff, and USGS science camp attendees help remove purple loosestrife from the grounds of USGS headquarters in Reston, Va., on July 19, 1999.

Message from the Chief Financial Officer

Barbara J. Ryan

I am pleased to present the U.S. Geological Survey's (USGS) fiscal year (FY) 1999 annual financial report.

We have pursued several management objectives this past fiscal year to position our organization for the new millennium. We recognize that funding and management practices used in the past must be updated to reflect new expectations of the Congress and the American people. Accordingly, we are working with the Congress to adapt our funding structure to better integrate our science activities. We are likewise aligning our management structure to achieve this objective.

We have refocused our strategic plan to reflect our vision "as a world leader in the natural sciences through our scientific excellence and responsiveness to society's needs." Our work is the sole support for the Department of the Interior's strategic goal of providing science for a changing world. We have coordinated our two program strategic goals with the budget we submit to Congress. This report presents our progress toward meeting the performance measures we have established for ourselves for these program strategic goals. We have prepared our statements of net cost, changes in net position, and budget resources to align with these strategic goals.

We improved several financial management practices last year, most notably in the cash-management area. We increased our use of the bank card for purchases, thereby reducing paperwork and earning rebates on each transaction. Our cash reconciliations with the Department of Treasury have improved considerably. Cash advances from Treasury have been eliminated, and we have reduced advances to employees. Our delinquent accounts receivable have been reduced by more than 35% over the past 3 years. Finally, last year 97.5% of our payments were timely, enabling us to reduce interest penalties by more than 50%.

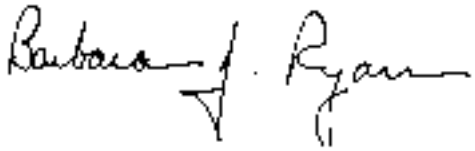
The USGS is conducting business transactions through electronic commerce. We have partnered with Interior to develop and test electronic purchasing and invoicing. In addition, we made more than 75% of our commercial payments and practically 100% of our salary payments via electronic funds transfer.

Our computer systems are well positioned for the century changeover (Y2K). We tested all our mission-critical and mission-essential systems and certified them as being Y2K compliant. We also had plans in place to address any eventual startup issues that might arise.

In my annual financial report message last year, I outlined several financial management initiatives for the coming year. I am happy to report that all of these initiatives have been undertaken or completed. We implemented the new bank card and are successfully interfacing many of our purchase transactions with our financial management system. We are moving forward with our data-warehousing project. We have fully implemented the Debt Collection Improvement Act and have implemented all emerging accounting standards, including a new general ledger structure. We endorse and actively pursue Interior's financial management goals and objectives and are a leading contributor to Interior's success.

We face several financial management challenges in the coming year. Our new organization and funding structure will undoubtedly create financial management issues to be addressed. We have several new laws, governmentwide regulations, and accounting standards to implement. The USGS will continue to advance Interior's financial management goals and objectives and our leadership role in achieving them. Finally, we will engage in several internal financial management initiatives, among them the continued development of a bureauwide data warehouse, expansion of distributed financial data input, and improvement of our financial management processes.

I consider it vitally important that we position the USGS to continue its world-class science status in the new century while practicing sound financial management. Achieving these goals will allow us to continue our commitment to scientific excellence and at the same time meet our vision of one bureau, one mission, and one message.



Barbara J. Ryan
Chief Financial Officer and
Associate Director for Operations

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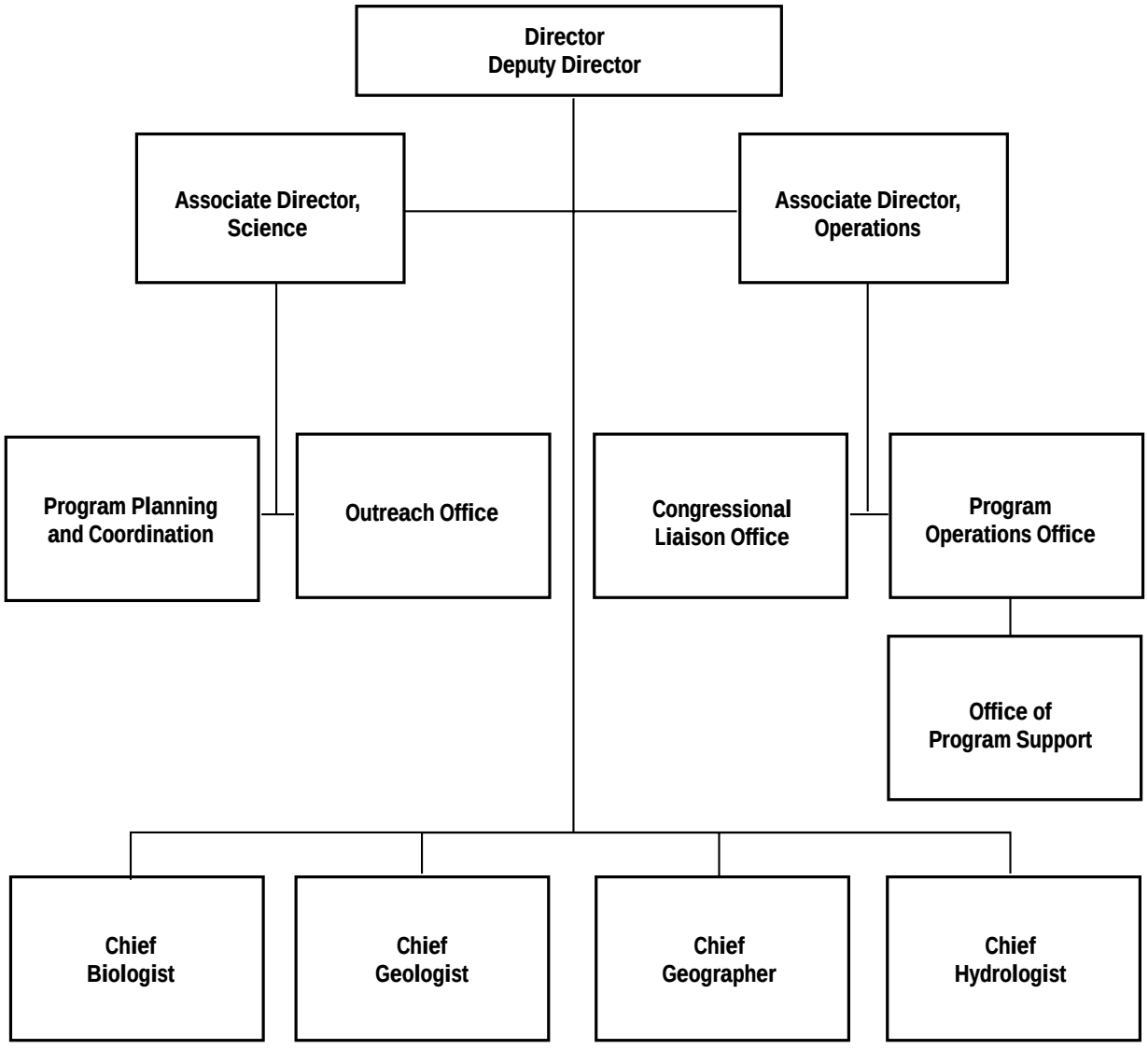
U.S. Geological Survey Organization Chart for FY 1999



Strategic Plan

In FY 1999, the U.S. Geological Survey (USGS) completed the revised Government Performance and Results Act (GPRA) strategic plan. The revised plan lays the foundation for moving toward the USGS future, for continuing our worldwide scientific leadership, and for achieving the USGS Director's vision for strategic advancement. This plan will guide our leadership and management in the years to come, helping us to assess progress, adjust strategies, and continually improve.

The following is a summary of the revised USGS strategic plan.

Vision
The USGS is a world leader in the natural sciences through our scientific excellence and responsiveness to society's needs.

Mission
The USGS serves the Nation by providing reliable scientific information to:
- describe and understand the Earth;
- minimize loss of life and property from natural disasters;
- manage water, biological, energy, and mineral resources; and
- enhance and protect our quality of life.

Strategic direction
The USGS will combine and enhance our diverse programs, capabilities, and talents with increased customer involvement to strengthen our scientific leadership and our contribution to the resolution of complex issues.

The U.S. Geological Survey has two mission goals and two long-term goals. The mission and long-term goals address program activities in the Hazards area and the Environment and Natural Resources area. The mission and long-term goals directly support the Department of the Interior Goal # 4, "Provide Science for a Changing World." As such, USGS science contributes to all of the department's goals, by focusing on the provision of scientific information to support these efforts.

USGS GPRA Program Activity—Hazards

Hazards are unpreventable natural events that, by their nature, may expose our Nation's population to the risk of death or injury and may damage or destroy private property, societal infrastructure, and agricultural or other developed land. Hazards include earthquakes, volcanoes, landslides, geomagnetic (solar) storms, floods, coastal erosion, tsunamis, wildland fire, and wildlife disease. USGS hazards mission activities deal with describing, documenting, and understanding natural hazards and their risks. These activities include long-term monitoring and forecasting, short-term prediction, real-time monitoring, and communication with civil authorities and others during a crisis. Other significant activities are (1) postcrisis analysis and development of strategies to mitigate the impact of future events and (2) preparation of coordinated risk assessments for regions vulnerable to natural hazards.

A USGS scientist from the Woods Hole field center measures coastal erosion following a severe storm at Nantucket Island, Mass.

Mission Goal: Provide science for a changing world in response to present and anticipated needs, focusing efforts to predict and monitor hazardous events in near real and real time and to conduct risk assessments to mitigate loss.

Long-Term Goal: Ensure the continued transfer of hazards-related data, risk assessments, and disaster scenarios needed by our customers before, during, and after natural disasters and, by 2005, increase the delivery of real-time hazards information by adding telemetry to 600 streamgages (thus reducing the time it takes to provide flood information at a site from 6–8 weeks to 4 hours) and installing 140 improved earthquake sensors (thus reducing delivery time of information on potentially damaging earthquakes from 40 to 20 minutes) to minimize the loss of life and property.

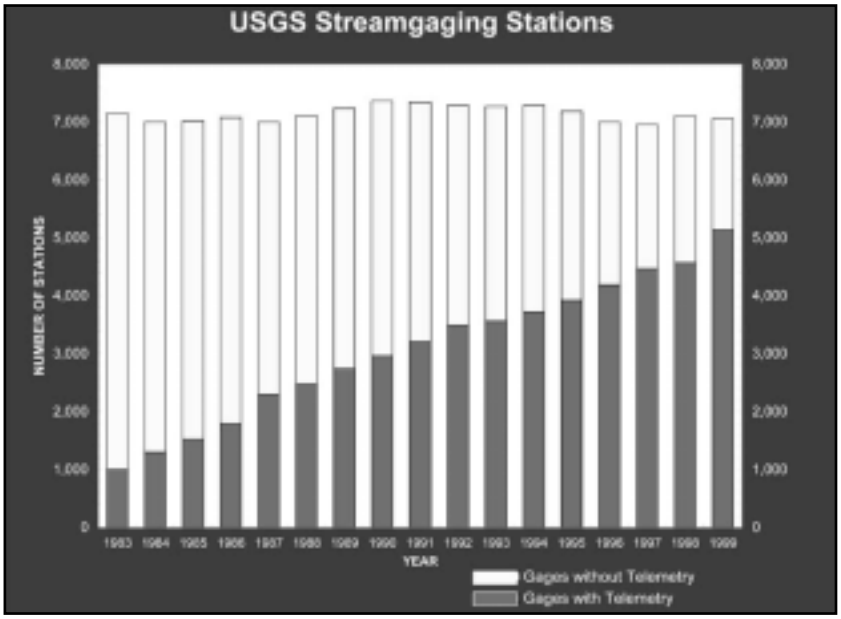
USGS GPRA Program Activity—Environment and Natural Resources

Our Nation's environment—the air, water, land, and plant and animal life—is constantly changing as natural processes and human actions affect it. Changes in demographics also affect the competition for and use of the renewable and nonrenewable natural resources—land, water, minerals, and energy—needed to sustain life and to maintain and enhance our Nation's economic strength.

The traditional boundaries between environment and natural resources science are increasingly blurring as land and resource management decisions deal with complex issues affecting both. The need for cross-disciplinary science has never been more apparent. USGS environment and natural resources mission activities deal with studies of natural physical, chemical, and biological processes and of the results of human actions. These studies encompass data collection, long-term assessments, ecosystem analysis, monitoring change, and forecasting the changes that may be expected in the future.

Mission Goal: Provide science for a changing world in response to present and anticipated needs to expand our understanding of environmental and natural resource issues on regional, national, and global scales and enhance predictive/forecast-modeling capabilities.

Long-Term Goal: Ensure the continued availability of long-term environmental and natural resource information and systematic analysis and investigations needed by customers and, by 2005, develop 20 new decision-support systems and predictive tools for informed decisionmaking about natural systems.



Graph showing the increase in the use of satellite telemetry at USGS streamgaging stations.

Budgetary Integrity

Budgetary resources for FY 1999 were obtained through Congressional action and signed into law by the President with the Omnibus Consolidated Appropriations for FY 1999, *Public Law 105–277*. The language and funding for the United States Geological Survey are presented on page 112 STAT. 2681–242 of the Omnibus Bill and state:

> For expenses necessary for the United States Geological Survey to perform surveys, investigations, and research covering topography, geology, hydrology, and the mineral and water resources of the United States, its territories and possessions, and other areas as authorized by 43 U.S.C. 31, 1332, and 1340; classify lands as to their mineral and water resources; give engineering supervision to power permittees and Federal Energy Regulatory Commission licensees; administer the minerals exploration program (30 U.S.C. 641); and publish and disseminate data relative to the foregoing activities; and to conduct inquiries into the economic conditions affecting mining and materials processing industries (30 U.S.C. 3, 21a, and 1603; 50 U.S.C. 98g(1)) and related purposes as authorized by law and to publish and disseminate data; $797,896,000, of which $69,596,000 shall be available only for cooperation with States or municipalities for water resources investigations; and of which $16,400,000 shall remain available until expended for conducting inquiries into the economic conditions affecting mining and materials processing industries; and of which $2,000,000 shall remain available until expended for ongoing development of a mineral and geologic data base; and of which $161,221,000 shall be available until September 30, 2000 for the biological research activity and the operation of the Cooperative Research Units: Provided, That of the funds available for the biological research activity, $6,600,000 shall be made available by grant to the University of Alaska for conduct of, directly or through subgrants, basic marine research activities in the North Pacific Ocean pursuant to a plan approved by the Department of Commerce, the Department of the Interior, and the State of Alaska: Provided further, That none of these funds provided for the biological research activity shall be used to conduct new surveys on private property, unless specifically authorized in writing by the property owner: Provided further, <<NOTE: 43 USC 50. administrative provisions>> That no part of this appropriation shall be used to pay more than one-half the cost of topographic mapping or water resources data collection and investigations carried on in cooperation with States and municipalities.
>
> The amount appropriated for the United States Geological Survey shall be available for the purchase of not to exceed 53 passenger motor vehicles, of which 48 are for replacement only; reimbursement to the General Services Administration for security guard services; contracting for the furnishing of topographic maps and for the making of geophysical or other specialized surveys when it is administratively determined that such procedures are in the public interest; construction and maintenance of necessary buildings and appurtenant facilities; acquisition of lands for gauging stations and observation wells; expenses of the United States National Committee on Geology; and payment of compensation and expenses of persons on the rolls of the Survey duly appointed to represent

[Page 112 STAT. 2681–243]

> the United States in the negotiation and administration of interstate compacts: Provided, That activities funded by appropriations herein made may be accomplished through the use of contracts, grants, or cooperative agreements as defined in 31 U.S.C. 6302 et seq.:

As set forth in the above legislation, the enacted level of budgetary resources for FY 1999 was:

Annual Funds	$618,275,000
No-Year Funds	18,400,000
Two-Year Funds	161,221,000
Total	$797,896,000

In Congressional tables, Congress indicated that the budgetary resources are directed toward the budgetary activities in the following amounts:

Budget activity ($000)	FY 1999
National Mapping Program	$138,315
Geologic Hazards, Resources, and Processes	239,150
Water Resources Investigations	209,153
Biological Research	162,461
General Administration	27,308
Facilities	21,509
Total	$797,896

The USGS is authorized to provide reimbursable services through the Economy Act, the Federal-State Cooperative Water Program ("of which $69,596,000 shall be available only for cooperation with States or municipalities for water resources investigations"; States match the $69,596,000, and therefore, the program is 50% Federal and 50% State funded), map sales, and other joint funding agreements. For FY 1999, the USGS had reimbursable agreement funding as follows:

Budget activity ($000)	FY 1999
National Mapping Program	$47,492
Geologic Hazards, Resources, and Processes	27,577
Water Resources Investigations	201,590
Biological Research	42,250
General Administration	12,592
Total	$331,501

Total appropriated and reimbursable budgetary resources for FY 1999 were $1,132,397,000, as shown below:

Budget activity ($000)	FY 1999 appropriated	FY 1999 reimbursable	FY 1999 budgetary resources
National Mapping Program	$138,315	$47,492	$185,807
Geologic Hazards, Resources, and Processes	239,150	27,577	266,727
Water Resources Investigations	209,153	201,590	410,743
Biological Research	162,461	42,250	207,711
General Administration	27,308	12,592	39,900
Facilities	21,509	0	21,509
Total	$797,896	$331,501	$1,132,397

Major changes to the budget originally approved included an emergency appropriation of $1,000,000 and a rescission of $1,655,000. These major changes were distributed to the budget activities as follows:

Budget activity ($000)	FY 1999 appropriated	Emergency appropriation	FY 1999 rescission	FY 1999 revised appropriation
National Mapping Program	$138,315	$0	-$167	$138,148
Geologic Hazards, Resources, and Processes	239,150	0	-491	238,659
Water Resources Investigations	209,153	859	-611	209,401
Biological Research	162,461	141	-274	162,328
General Administration	27,308	0	-104	27,204
Facilities	21,509	0	-8	21,501
Total	$797,896	$1,000	-$1,655	$797,241

Appropriated funds were obligated during FY 1999 as follows:

Budget activity ($000)	FY 1999 revised budgetary resources	Unobligated balance	FY 1999 total obligations*
National Mapping Program	$185,640	$6	$185,634
Geologic Hazards, Resources, and Processes	266,236	630	265,606
Water Resources Investigations	410,991	701	410,290
Biological Research	207,578	12,266	195,312
General Administration	39,796	246	39,550
Facilities	21,509	0	21,509
Total	$1,131,742	$13,849	$1,117,901

*Total obligations include all obligations and expenditures of funds appropriated and reimbursable agreements earned in FY 1999.

The U.S. Geological Survey works with the Minerals Management Service to assess the vulnerability and health of marine biological communities that could be affected by offshore oil and gas exploration and production. Studies include an evaluation of the ecological significance of the oil and gas structures of the Gulf of Mexico, an assessment of the distribution and abundance of whales and dolphins in the northern Gulf of Mexico, an evaluation of the long-term effects of offshore oil and gas production platforms in the Santa Maria Basin offshore California, a study of the ecological role of natural reefs and oil and gas production platforms on rocky reef fishes of southern California, and studies of Alaska sea birds and coastal birds in areas with oil and gas potential.

Understanding Federal Financial Statements

The USGS prepares consolidated financial statements that include a balance sheet, a statement of net cost, a statement of net position, a budgetary statement, and a statement of financing. When seen as a whole, all of these statements present the current year's financial activity and the long-term financial position of the USGS. Federal Government operations differ from those in the private sector in many ways. Two of the most obvious differences are that Government agencies are not profit oriented and most of the funds used to operate an agency are provided by Congress for purposes of performing the agency's mission. The table below provides useful information to keep in mind when looking at the financial statements for the USGS.

Statement	Objective	Useful information
Balance sheet	• Presents the bureau's financial position (assets, liabilities, and net position)	• Liabilities covered by budgetary resources are debts the USGS has incurred for which funding (either appropriated or reimbursable) is available for payment. This is similar to short-term debt. • Liabilities not covered by budgetary resources are debts that the bureau will pay in the future for which there is no current funding available. This is similar to long-term debt.
Statement of net cost	• Presents the taxpayer's cost of the bureau's missions and programs	• Revenues shown are a result of money the bureau earned through its reimbursable programs, not money that came from an appropriation. • "Net cost" is expenses less revenues earned, which results in the actual cost to taxpayers.
Statement of changes in net position	• Presents the sources of financing (other than what was earned) that funded the cost to taxpayers as shown on the statement of net cost	• "Appropriations used" is the amount of taxpayer money that is used to perform operations during the reporting period.
Statement of budgetary resources	• Presents the budgetary resources available for use during the reporting period and the balance (status) of those resources at the end of the reporting period	• Presentation is based on the budget terminology, definitions, and guidance in OMB (Office of Management and Budget) Circular A–34, "Instructions on Budget Execution."
Statement of financing	• Reconciles the statement of budgetary resources to the statement of net cost	• The statement of net cost is prepared on a cash basis where expenses and revenues are recognized when they occur. The statement of budgetary resources is prepared on an obligation basis where expenses and revenues are recognized when they are paid or received.

Helpful Definitions

Accounts receivable unbilled. As the USGS performs work for a customer, it must pay for items such as salaries and supplies. The customer can be billed only when the service has been completed. During the lag time between performing services and completing projects, the expenses that have been incurred are recorded as an unbilled receivable.

Appropriation. Money provided by Congress that helps to fund mission programs.

Budgetary resources. The amount of money available for spending. This includes money provided by Congress, money collected from customers, and money set aside from a previous period that has not yet been expensed.

Deferred revenue. In order for the USGS to perform work for customers outside the Federal Government, the money must be collected in advance of the services performed. That money is recorded as deferred revenue until it has been earned by completing the requested product or service.

Financing sources. Money that is available for mission programs but that has not been earned by performing a reimbursable service.

Fund balance with Treasury. This is the USGS bank account. The balance is the cumulative result of all money that was deposited (as a result of an appropriation and money collected for services performed) and spent.

Obligations incurred. Money that has been set aside and earmarked for a pending future payment.

Reimbursables. Money that is earned by the USGS by performing services and producing products for paying customers.

Segment Reporting

USGS segments show the statement of net cost, the statement of changes in net position, and the budgetary statement; they are presented at a bureau level. Two segments for financial reporting are aligned with GPRA program activities. "The Environment and Natural Resources" and "Hazards" segments are composed of mission programs that are funded through appropriated funds and reimbursable funds. The "Self-Financing Activity" segment is the bureau's working capital fund and is funded entirely through fees for services performed and investments. The "Other" segment includes suspense accounts, accounts for which money is not kept by the USGS but instead is returned to the Treasury (such as interest and fines collected), and small transfer accounts for which the USGS is given money from other government agencies to perform services.

The statement of net position is not entirely presented by segment for "Environment and Natural Resources" and "Hazards." In previous years, segment reporting was not required; therefore, the USGS did not allocate its budget to GPRA program activities. Consequently, prior year data that would be needed to report beginning balances are not available. Financial statement lines that are presented by segment are those that are showing only current-year data.

Financial Statements

Limitations of the Financial Statements

- The financial statements have been prepared to report the position and results of operations of the entity, pursuant to the requirements of 31 U.S.C. 3515(b).

- While the statements have been prepared from the books and records of the entity in accordance with the formats prescribed by OMB, the statements are in addition to the financial reports used to monitor and control budgetary resources which are prepared from the same books and records.

- The statements should be read with the realization that they are for a component of the U.S. Government, a sovereign entity. One implication of this is that liabilities cannot be liquidated without legislation that provides resources to do so.

U.S. Geological Survey
Consolidated Balance Sheet
As of September 30, 1999, and 1998
[Dollars in thousands]

		1999	1998
Assets			
Fund Balance with Treasury	Note 2	**$210,071**	$225,474
Cash and Foreign Currency		**52**	225
Accounts Receivable Billed:	Note 3		
Due from Federal Agencies		**15,244**	10,492
Due from the Public		**23,937**	20,175
Accounts Receivable Unbilled:	Note 4		
Due from Federal Agencies		**65,035**	75,112
Due from the Public		**53,518**	50,194
Inventory	Note 5	**16,597**	17,380
Operating Materials & Supplies		**96**	96
Property & Equipment, Net of Depreciation	Note 6	**136,812**	175,571
Interest Receivable		**120**	201
Advances to Others:			
Due from Federal Agencies		**1,099**	
Due from the Public		**350**	313
Prepayments		**293**	265
Total Assets		**$523,224**	$575,498
Liabilities			
Liabilities Covered by Budgetary Resources:			
Accounts Payable:			
Due to Federal Agencies		**$17,511**	$26,475
Due to the Public		**86,137**	90,448
Deferred Revenue:			
Due to Federal Agencies		**31,156**	33,650
Due to the Public		**21,904**	22,976
Accrued Payroll & Benefits:			
Due to Federal Agencies		**5,502**	4,191
Due to Employees		**27,212**	25,627
Liabilities Not Covered by Budgetary Resources:			
Accrued Unfunded Annual Leave		**45,519**	49,289
Actuarial Liabilities	Note 7	**25,499**	25,554
Estimated Future Liabilities	Note 8	**13,897**	
Contingent Liabilities	Note 9		
Total Liabilities		**$274,337**	$278,210
Net Position			
Unexpended Appropriations	Note 10	**$150,148**	$155,870
Cumulative Results of Operations		**98,739**	141,418
Total Net Position		**$248,887**	$297,288
Total Liabilities & Net Position		**$523,224**	$575,498

The accompanying notes are an integral part of these statements

U.S. Geological Survey
Consolidated Statement of Net Costs
For the years ended September 30, 1999, and 1998
[Dollars in thousands]

		1999	1998
Operational Costs:			
Total Operating Expenses	Note 11	**$1,177,262**	$1,126,795
Cost of Goods Sold		**1,208**	741
Depreciation		**18,415**	24,565
Loss on Disposition of Assets		**1,268**	3,558
Changes in Actuarial Liabilities		**(55)**	
Unfunded Expenses		**(3,769)**	4,704
Bad Debt and Write-Offs		**357**	89
Interest Expense		**48**	101
Total Costs		**$1,194,734**	$1,160,553
Revenues Earned :	Note 12		
Sales of Goods and Services to the Public		**$144,000**	$131,592
Sales of Goods and Services to Federal Agencies		**196,431**	212,865
Interest & Penalties	Note 13	**254**	(230)
Gain on Disposition of Assets		**0**	28
Total Revenues		**$340,685**	$344,255
Net Cost of Operations		**$854,049**	$816,298

The accompanying notes are an integral part of these statements

U.S. Geological Survey
Consolidated Statement of Changes in Net Position
For the years ended September 30, 1999, and 1998
[Dollars in thousands]

		1999	1998
Net Cost of Operations		**($854,049)**	($816,298)
Financing Sources:			
Appropriations Used		**800,065**	745,384
Donated Revenue		**988**	1,215
Employee Benefits		**46,659**	45,853
Assets Transferred Out		**(13,915)**	(413)
Other Financing Sources	Note 14	**17,193**	
Net Results of Operations		**($3,059)**	($24,259)
Changes in Net Position:			
Decrease in Appropriated Capital		**($5,722)**	($54,808)
Increase in Invested Capital		**0**	30,859
Prior Period Adjustments	Note 15	**(39,620)**	(51,212)
Total Changes in Net Position		**($45,342)**	($75,161)
Net Change in Net Position		**($48,401)**	($99,420)
Net Position, Beginning of Period		**$297,288**	$396,708
Net Position, End of Period		**$248,887**	$297,288

The accompanying notes are an integral part of these financial statements

U.S. Geological Survey
Combined Statement of Budgetary Resources
For the year ended September 30, 1999
[Dollars in thousands]

	1999
Budgetary Resources:	
Budget Authority	**$799,343**
Unobligated Balances, Beginning of Period	**68,856**
Spending Authority from Offsetting Collections	**444,477**
Adjustments	**3,301**
Total Budgetary Resources	**$1,315,977**
Status of Budgetary Resources:	
Obligations Incurred	**$1,214,110**
Unobligated Balances Available	**56,144**
Unobligated Balances Not Available	**45,723**
Total Status of Budgetary Resources	**$1,315,977**
Outlays:	
Obligations Incurred	**$1,214,110**
Less: Spending Authority from Offsetting Collections & Adjustments	**(451,617)**
Obligated Balance, Net, Beginning of Period	**155,577**
Less: Obligated Balance, Net, End of Period	**(114,594)**
Total Outlays	**$803,476**

The accompanying notes are an integral part of these statements

U.S. Geological Survey
Combined Statement of Financing
For the year ended September 30, 1999
[Dollars in thousands]

	1999
Obligations and Nonbudgetary Resources:	
Obligations Incurred	**$1,214,110**
Less: Spending Authority for Offsetting Collections & Adjustments	**(451,617)**
Donations Not in the Budget	**988**
Financing Imputed for Cost Subsidies	**46,659**
Transfers-Out	**(13,915)**
Exchange Revenue Not in the Budget	**439**
Other	**17,193**
Total Obligations & Nonbudgetary Resources, as Adjusted	**$813,857**
Resources That Do Not Fund Net Cost of Operations:	
Change in Goods, Services, & Benefits Ordered But Not Received	**$15,234**
Change in Unfilled Customer Orders	**33,331**
Capitalized Costs from the Balance Sheet	**(39,542)**
Financing Sources that Fund Costs of Prior Period	**(625)**
Other	**418**
Total Resources That Do Not Fund Net Cost of Operations	**$8,816**
Costs That Do Not Require Resources:	
Depreciation	**$18,416**
Bad Debt Expense	**357**
Loss of Disposition of Assets	**1,268**
Other	**(2,562)**
Total Costs That Do Not Require Resources	**$17,479**
Financing Sources Yet to be Provided	**$13,897**
Net Cost of Operations	**$854,049**

The accompanying notes are an integral part of these statements

U.S. Geological Survey
Consolidating Statement of Net Costs
For the year ended September 30, 1999
[Dollars in thousands]

	Environment & Natural Resources Activities	Hazards Activity	Total Scientific Activity	Self-Financing & Investment Activities	Other Activities	Intrabureau Eliminations	Bureau Total
Operational Costs:							
Total Operating Expenses	**$1,047,078**	**$129,529**	$1,176,607	**$45,850**	**$5,191**	($50,386)	$1,177,262
Cost of Goods Sold	**1,208**	**0**	1,208	**0**	**0**		1,208
Depreciation	**16,139**	**1,995**	18,134	**262**	**19**		18,415
Loss on Disposition of Assets	**800**	**99**	899	**312**	**57**		1,268
Change in Actuarial Liability	**(49)**	**(6)**	(55)	**0**	**0**		(55)
Unfunded Expenses	**(3,354)**	**(415)**	(3,769)	**0**	**0**		(3,769)
Bad Debt and Write-Offs	**85**	**11**	96	**0**	**261**		357
Interest Expense	**40**	**5**	45	**3**	**0**		48
Total Costs	**$1,061,947**	**$131,218**	$1,193,165	**$46,427**	**$5,528**	($50,386)	$1,194,734
Revenues Earned:							
Sales of Goods and Services to the Public	**$130,631**	**$12,919**	$143,550	**$0**	**$450**		$144,000
Sales of Goods and Services to Federal Agencies	**182,580**	**18,057**	200,637	**45,762**	**418**	($50,386)	196,431
Interest & Penalties	**0**	**0**	0	**0**	**254**		254
Total Revenues	**$313.211**	**$30,976**	$344,187	**$45,762**	**$1,122**	($50,386)	$340,685
Net Cost of Operations	**$748,736**	**$100,242**	$848,978	**$665**	**$4,406**	$0	$854,049

The accompanying notes are an integral part of these statements

U.S. Geological Survey

Consolidating Statement of Changes in Net Position

For the year ended September 30, 1999

[Dollars in thousands]

	Environment & Natural Resources Activities	Hazards Activity	Total Scientific Activity	Self-Financing & Investment Activities	Other Activities	Bureau Total
Net Cost of Operations	**($748,736)**	**($100,242)**	($848,978)	**($665)**	**($4,406)**	($854,049)
Financing Sources:						
Appropriations Used	**696,907**	**95,033**	791,940	**1,667**	**6,458**	800,065
Donated Revenue	**0**	**0**	0	**0**	**988**	988
Employee Benefits	**40,696**	**5,030**	45,726	**933**	**0**	46,659
Assets Transferred Out	**(12,634)**	**(46)**	(12,680)	**(909)**	**(326)**	(13,915)
Other Financing Sources	**15,302**	**1,891**	17,193	**0**	**0**	17,193
Net Results of Operations	**($8,465)**	**$1,666**	($6,799)	**$1,026**	**$2,714**	($3,059)
Changes in Net Position:						
Increase in Appropriated Capital	**$2,117**	**$261**	$2,378	**($2,063)**	**($6,037)**	($5,722)
Prior Period Adjustment	**(35,657)**	**(3,470)**	(39,127)	**(443)**	**(50)**	(39,620)
Total Changes in Net Position	**($33,540)**	**($3,209)**	($36,749)	**($2,506)**	**($6,087)**	($45,342)
Net Change in Net Position	**($42,005)**	**($1,543)**	($43,548)	**($1,480)**	**($3,373)**	($48,401)
Net Position, Beginning of Period			$283,707	**$3,384**	**$10,197**	$297,288
Net Position, End of Period			$240,159	**$1,904**	**$6,824**	$248,887

The accompanying notes are an integral part of these statements

U.S. Geological Survey
Combining Statement of Budgetary Resources
For the year ended September 30, 1999
[Dollars in thousands]

	Scientific Activities	Self-Financing & Investment Activities	Other Activities	Bureau Total
Budgetary Resources:				
Budget Authority	$797,241	$0	$2,102	$799,343
Unobligated Balances, Beginning of Period	34,034	25,236	9,586	68,856
Spending Authority from Offsetting Collections	372,165	71,899	413	444,477
Adjustments	5,082	(2,539)	758	3,301
Total Budgetary Resources	$1,208,522	$94,596	$12,859	$1,315,977
Status of Budgetary Resources:				
Obligations Incurred	$1,157,949	$50,547	$5,614	$1,214,110
Unobligated Balances Available	20,548	34,384	1,212	56,144
Unobligated Balances Not Available	30,026	9,665	6,032	45,723
Total Status of Budgetary Resources	$1,208,523	$94,596	$12,858	$1,315,977
Outlays:				
Obligations Incurred	$1,157,949	$50,547	$5,614	$1,214,110
Less: Spending Authority from Offsetting Collections & Adjustments	(381,087)	(69,360)	(1,170)	(451,617)
Obligated Balance, Net, Beginning of Period	126,483	24,619	4,475	155,577
Less: Obligated Balance, Net, End of Period	(109,467)	(2,203)	(2,924)	(114,594)
Total Outlays	$793,878	$3,603	$5,995	$803,476

The accompanying notes are an integral part of these statements

Notes to Financial Statements

[Dollars in thousands]

NOTE 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

A. Basis of Accounting and Presentation

These financial statements have been prepared to report the financial position, net cost of operations, changes in net position, budgetary resources, and statement of financing of the U.S. Geological Survey (USGS) as required by the Chief Financial Officers Act of 1990, as amended by the Federal Financial Management Reform Act of 1994. The financial statements have been prepared from the books and records of the USGS in accordance with generally accepted accounting principles, as promulgated by the Federal Accounting Standards Advisory Board, the formats prescribed by the Office of Management and Budget Bulletin 97–01, as amended, and the accounting policies and procedures of the USGS.

Transactions are recorded on an accrual accounting basis and a budgetary basis. Under the accrual method, revenues are recognized when earned, and expenses are recognized when goods and services are received, without regard to receipt or payment of cash. Included are all funds and accounts under USGS control and allocations from other Federal agency appropriations transferred under specific legislative authority. Transactions affecting budgetary resources are recorded concurrently, facilitating compliance with legal constraints and controls over the use of Federal funds. Also, the Statement of Budgetary Resources contains intrabureau financial transactions for the USGS that have not been eliminated.

B. Reporting Entity

The USGS was established on March 3, 1879, by an act of Congress to conduct systematic and scientific "classification of the public lands, and examination of the geological structure, mineral resources, and products of the national domain." The current mission of the USGS is to provide biologic, 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. Effective from October 1, 1998, the Washington Administrative Service Center has separated from the USGS and combined with the Department of Interior, Office of the Secretary.

C. Revenues and Other Financing Sources

The USGS receives annual, multi-year, and no-year appropriations for mission programs. Most of the budget authority is received through the annual appropriation, "Surveys, Investigations, and Research." Additional budgetary resources are available for goods and services furnished on a reimbursable basis. The USGS has specific legislative authority to record accounts receivable from non-Federal customers under reimbursable agreements as budgetary resources. The USGS also has authority to receive contributions from outside organizations to perform work desired mutually by both parties. In addition, the USGS receives rental receipts for providing quarters at remote locations for geomagnetic or seismic observations. Revenues are recognized when earned (i.e., goods have been delivered or services rendered). Revenues received in advance of performance are recorded as liabilities until actually earned.

D. Funds with the U.S. Treasury and Cash

All cash disbursements are processed through the Department of Treasury. Cash collections from product sales are received at various sites nationwide and deposited locally in commercial banks designated as Treasury General Account Depositories. Receipts from joint funding agreements with State and local governments are processed through the Treasury's Lock-Box bank in Atlanta, Ga. Bureau cash balances are reconciled monthly with Treasury Report 6653, Undisbursed Appropriation Account Ledger. Cash balances held outside of Treasury are not material. Further details on fund balances with Treasury are contained in Note 2.

E. Foreign Currency

The USGS maintains small balances of foreign currencies to be used to make payments in foreign countries. Those balances are reported at the U.S. dollar equivalent by using the exchange rate in effect on the last day of the reporting period.

F. Inventories

The USGS has inventories of supplies and materials used for normal agency operations and inventories of maps, map products, and hydrologic equipment held for sale. Costing methods that approximate historical cost are used to value inventories. General ledger balances are adjusted at yearend. See Note 5 for additional information concerning inventories.

G. Property and Equipment

Property and equipment consist of buildings, structures, land, and equipment. In general, building and structures are capitalized if the acquisition cost is $50 or more and depreciated by using the straight-line method of depreciation over a useful life of 30 years. Effective October 1, 1998, the personal property capitalization threshold has increased from $5 to $15 per the Department of Interior (DOI) personal property capitalization threshold policy change. Equipment is capitalized at cost if the original acquisition amount is $15 or more and the asset has an estimated service life of 2 years or greater. Depreciation is recorded by using the straight-line method. Equipment with an acquisition cost of less than $15 is expensed when purchased. See Note 6 for additional property and equipment information.

H. Prepaid and Deferred Charges

Payments in advance of the receipt of goods and services are recorded as prepaid charges at the time of prepayment and recognized as expenditures/operating expenses when the related goods and services are received.

I. Liabilities

Liabilities represent the amount of monies or other resources that are likely to be paid by the USGS as the result of past transactions or events. However, no liability can be paid by the USGS absent an appropriation. Liabilities for which an appropriation has not been enacted are, therefore, classified as liabilities not covered by budgetary resources, or unfunded liabilities, and there is no certainty that an appropriation will be enacted. Also, liabilities arising from other than contracts can be abrogated by the Government, acting in its sovereign capacity.

J. Annual, Sick, and Other Leave

The USGS recorded an unfunded liability for accrued annual leave. This balance is adjusted at yearend to reflect current leave earned but not taken. Sick leave and other types of nonvested leave are expensed when used.

K. Retirement Plan

USGS employees participate in the Civil Service Retirement System (CSRS) or the Federal Employee Retirement System (FERS), to which the USGS makes matching contributions. The consolidated financial statements do not report CSRS or FERS assets or accumulated plan benefits. Managing and reporting such amounts are the responsibility of the Office of Personnel Management (OPM).

The USGS recognizes its share of the expense of employee benefit programs and future pension outlays incurred by the OPM and the imputed financing source applicable to those expenses.

NOTE 2. FUND BALANCE WITH TREASURY, CASH, AND FOREIGN CURRENCY

Fund Balance with Treasury, Cash, and Foreign Currency at September 30

	1999	1998
Fund Balance:		
Appropriated Funds	$161,876	$164,550
Working Capital Fund	45,683	50,078
All Other	2,512	10,846
Subtotal	210,071	225,474
Cash	7	180
Foreign Currency	45	45
Total Fund Balance, Cash, and Foreign Currency	$210,123	$225,699

In the table above, the "fund balance with Treasury" represents the total of USGS unexpended account balances. The unexpended funds consist of obligated funds that are designated for goods and services ordered but not received, or received but not yet paid. In addition, depending on budget authority, unobligated funds either have restrictions placed on their availability for obligation or are available for continued obligation. Treasury maintains fund balances in specific USGS accounts and in the parent accounts of Federal agencies that have allocated funds to the USGS.

The "cash" amount includes imprest and change-making funds. The imprest funds were officially closed in fiscal year 1999. The USGS is reconciling its records to complete closure. Change-making funds are maintained in offices where maps are sold over the counter.

The "foreign currency" amount consists of two Treasury foreign transaction accounts maintained in the Paris and New Delhi overseas disbursing offices.

NOTE 3. ACCOUNTS RECEIVABLE BILLED

Accounts Receivable Billed at September 30

	1999		1998	
	Public	Federal	Public	Federal
Accounts Receivable	$26,856	$17,177	$26,077	$11,954
Less Allowance for Doubtful Accounts	2,919	1,933	5,701	1,462
Accounts Receivable and 1998 Interest Receivable, Net	23,937	15,244	20,376	10,492
Less 1998 Interest Receivable, Net	--	--	201	--
Accounts Receivable, Net	$23,937	$15,244	$20,175	$10,492

In the table above, "accounts receivable" represents amounts owed to the USGS from other Federal agencies and from the public. Most of these receivables result from reimbursable services performed for other Federal agencies or under joint funding agreements with State, local, and regional agencies for cooperative work in support of the "Surveys, Investigations, and Research" appropriation. Receivables also include balances owed (1) for credit sales of products and maps to Federal agencies and the public and (2) for interest, administrative costs, and penalties due on delinquent receivables.

The "allowance for doubtful accounts" was calculated on the basis of a review of outstanding billed receivables and includes an estimated percentage for uncollectible unbilled receivables.

The calculation of the allowance for "public receivables" considered anticipated increased collections and identification of uncollectible debts through referrals of eligible delinquent debts to Treasury under the Debt Collection Improvement Act (DCIA).

The calculation of the allowance for "Federal receivables" considered improved collections of delinquent bills owed by the Department of Defense (DOD) agencies through a coordinated effort with DOD's Defense Finance and Accounting Service.

The category "accounts receivable" is net of interest receivable. In 1998, the USGS reported $201 of interest receivable with accounts receivable from the public.

NOTE 4. ACCOUNTS RECEIVABLE UNBILLED

The USGS has specific legislative authority to enter into reimbursable agreements to perform cooperative work in advance of payment. The category "accounts receivable unbilled" includes amounts that have been earned but not yet billed to and collected from customers under reimbursable agreements. Billings are prepared in accordance with terms of the reimbursable agreements, which can be quarterly, semi-annually, or annually. Many agreements have performance periods ending in September, with bills for collection prepared in the first month of the new fiscal year.

NOTE 5. INVENTORY

Inventory includes maps, map products, hydrologic equipment, and raw materials. Maps and map products are located at the USGS Rocky Mountain Mapping Center in Denver, Colo., and at nine Earth Science Information Centers across the United States. Map and map product values are based on actual physical yearend counts.

The hydrologic equipment inventory of the USGS is located at the Hydrologic Instrumentation Facility (HIF) at the Stennis Space Center in Mississippi. Products located at the HIF can be sold only to Federal agencies. A physical yearend inventory was taken at the HIF, and an adjusting entry was made on the basis of the results.

Inventory at September 30

	1999	1998
Published Maps, Finished	$8,569	$9,201
Hydrologic Equipment, Finished	6,406	6,212
Total Finished Inventory	$14,975	$15,413
Raw Materials	1,622	1,967
Total	$16,597	$17,380

NOTE 6. PROPERTY AND EQUIPMENT, NET OF DEPRECIATION

Property and Equipment, Net at September 30, 1999

	Acquisition Value	Accumulated Depreciation	Net Book Value
Land	$363	--	$363
Structures and Facilities	113,416	$53,989	59,427
Equipment	212,983	135,961	77,022
Total	$326,762	$189,950	$136,812

Property and Equipment, Net at September 30, 1998

	Acquisition Value	Accumulated Depreciation	Net Book Value
Land	$364	--	$364
Structures and Facilities	111,651	$50,250	61,401
Equipment	327,091	213,285	113,806
Total	$439,106	$263,535	$175,571

Of the $189,950 in accumulated depreciation, $18,416 was expensed in fiscal year 1999. Please see Note 1G for USGS property and equipment policy.

NOTE 7. ACTUARIAL LIABILITIES

The USGS has recorded an unfunded actuarial liability for the expected future cost for death, disability, and medical claims under the Federal Employees Compensation Act. The Department of Labor provided the data for this liability.

NOTE 8. ESTIMATED FUTURE LIABILITIES

Estimated future liabilities represent removal and restoration costs of abandoned sites. The USGS has a legal liability to remove equipment and restore the land for abandoned data collection stations, observation well sites, and river cableway sites.

NOTE 9. CONTINGENT LIABLITIES

The USGS has certain contingent liabilities that may eventually result in the payment of substantial monetary claims to third parties. The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 requires Federal agencies to report sites where hazardous wastes are or have been stored, treated, or disposed of and also requires responsible parties, including Federal agencies, to clean up releases of hazardous substances.

The management of the USGS, in consultation with the DOI Solicitor, believes that this and other such claims will not materially affect the future financial condition of the USGS. According to the Solicitor, there are no other contingent liabilities that materially affect the financial position or results of USGS operations.

NOTE 10. UNEXPENDED APPROPRIATIONS

In the following table, an adjustment to the 1998 unexpended appropriations has been made to reflect 1998 accruals that were not recognized.

Unexpended Appropriations at September 30

	1999	1998
Unobligated	$ 56,144	$32,084
Undelivered Orders	94,004	192,775
Unexpended Appropriations (Unadjusted)	150,148	224,859
Less 1998 Accruals	--	68,989
Unexpended Appropriations	$150,148	$155,870

NOTE 11. TOTAL OPERATING EXPENSES

Operating Expenses by Object Classification at September 30

	1999	1998
Personnel Services	$654,175	$647,039
Contractual Services	200,002	196,893
Operating Leases	75,306	68,548
Communications Rental	20,445	20,883
Grants and Subsidies	72,350	64,881
Equipment Not Capitalized	65,166	41,122
Travel and Transportation	42,920	41,206
Supplies and Materials	41,711	41,336
Printing and Reproduction	4,965	4,667
Other Expenses	222	220
Total	$1,177,262	$1,126,795

The fiscal year 1998 employee benefit expense ($45,853) has been combined with personnel services in the above table. Also, the fiscal year 1998 amount for contractual services has been restated.

NOTE 12. REVENUES EARNED

Revenues earned from public sources are derived from States and municipalities for making cooperative topographic and geologic surveys and water-resource investigations; proceeds from the sale of photographs, maps, and records; proceeds from the sale of personal property; and reimbursements from permits and licenses of the Federal Energy Regulatory Commission. Revenues from cooperatives represent about half of the total cost; the USGS pays the remaining half of the total cooperatives cost. Revenues earned from other Federal agencies are derived from special-purpose mapping and investigations performed at the request of the financing agency, much of which contributes to the basic objectives of the USGS. Revenues are also received through the Department of State from foreign countries and international organizations for scientific and technical assistance.

NOTE 13. INTEREST AND PENALTIES

The category “interest and penalties” represents amounts that were assessed in the prior year but waived during the current fiscal year. In accordance with Title 4, Part 102, Section 13(g) of the Code of Federal Regulations (4CFR 102.13(g)), an agency has the right to waive the collection of interest on a debt or any portion of a debt that is paid within 30 days after the date on which interest began to accrue.

NOTE 14. OTHER FINANCING SOURCES

The U.S. Department of Interior, Office of the Secretary, provided funds to the USGS to ensure Y2K compliance.

NOTE 15. PRIOR PERIOD ADJUSTMENTS

To facilitate the USGS reporting consistency and reporting comparability, prior period adjustments have been made to reflect changes in accounting principles and correction of prior period errors.

The most significant prior period adjustment was to implement the new Department of Interior personal property capitalization threshold policy. The capitalization change was applied retroactively, and the prior period adjustment is for the value of property under the new capitalization threshold acquired in previous years.

A prior period adjustment was made to reflect a liability for abandoned data collection stations, observation well sites, and river cableway sites.

An entry was made to adjust the book value of personal property acquired by excess to comply with Statement of Federal Financial Accounting Standard No. 6.

Adjustments were also made to change the General Services Administration (GSA) building delegation expense and reverse the prior period property write down and depreciation adjustment.

Other significant prior period adjustments were an adjustment to record actuarial liabilities, opening balance adjustments, Working Capital Investment component adjustment, and prior period intrabureau elimination correction.

Prior Period Adjustments for the Year Ended September 30

	1999	1998
Personal Property Capitalization Threshold Change - Cost	$27,320	
Liability to Remove Equipment and Restore Land	13,897	
Personal Property Capitalization Threshold Change - Depreciation	5,006	
Personal Property Acquired by Excess	1,663	
GSA Building Delegation	(3,872)	
Actuarial Liabilities		$25,555
Opening Balance Adjustments		23,351
Working Capital Investment		17,827
Property Write Down and Depreciation	(4,394)	4,394
Future Funding		1,887
Accrual		624
Intrabureau Elimination		(21,426)
Total	$39,620	$52,212

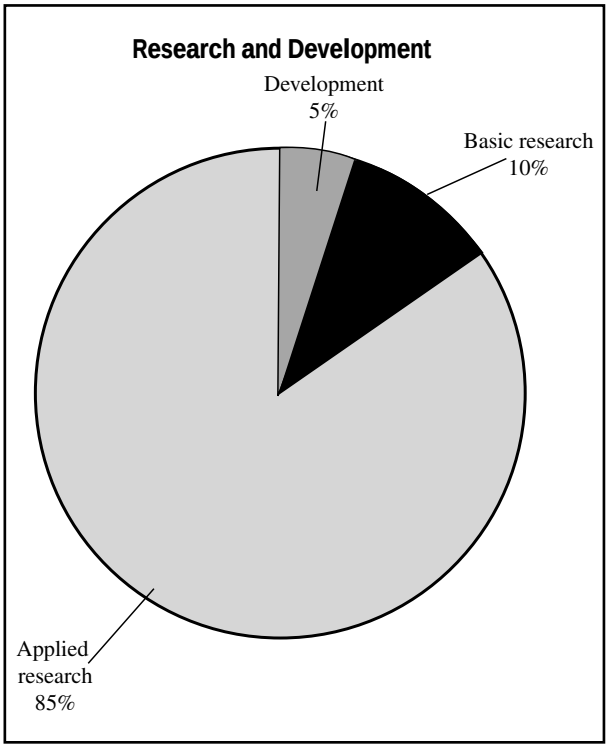
Research and Development
Annual Stewardship Information
for the Fiscal Year Ended September 30, 1999

Federal investment in research and development comprises expenses for basic research, applied research, and development that are intended to increase or maintain national economic productive capacity or yield other benefits. Expense data are expressed in nominal dollars for the fiscal year 1999.

Following is a summary of stewardship data for the U.S. Geological Survey (USGS) for the fiscal year ended September 30, 1999.

Program Expenses* ($millions)	FY 1999*
Basic research	$78
Applied research	672
Development	39
Total	$789

*FY 1999 will serve as the base for future-year comparisons.



USGS scientist collecting volcanic gases.

The USGS research and development program was authorized by the Organic Act of March 3, 1879 (43 U.S.C. 31 et seq.), to provide for the examination of geological structures, mineral resources, and products within and outside the national domain. Earth science research and information save lives and property, safeguard human health, enhance the economic vitality of the Nation and its people, assess resources, characterize environments, and predict the impact of contamination.

As the Nation's largest water, earth, and biological science and civilian mapping agency, the USGS works in cooperation with more than 2,000 organizations across the country to provide reliable, impartial, scientific information to resource managers, planners, and other customers. This information is gathered in every State by USGS scientists to minimize the loss of life and property from natural disasters, to contribute to the sound conservation and economic and physical development of the Nation's natural resources, and to enhance the quality of life by monitoring water, biological, energy, and mineral resources.

The following are a few examples of USGS accomplishments in FY 1999 demonstrating basic research, applied research, and development.

Landslide Hazard Assessments in Seattle

USGS landslide experts worked in partnership with the city of Seattle and private interests in the region to develop probabilistic landslide hazard maps for Seattle and the transportation corridors of the Puget Sound Regional Transit Authority. This work involves analyzing a historic landslide data base provided by the city of Seattle. USGS personnel used geographic information system (GIS) techniques to relate landslide occurrences to rock and soil types, slope angles, and rainfall amounts. The resulting maps (or GIS layers) show landslide probabilities as a function of location (geology and topography) and meteorological conditions. This information is crucial to Seattle as the city begins to develop a light rail system for commuter use.

Landslide at Magnolia Bridge, Seattle, Wash. The porch at the back of the light-colored house was undermined and collapsed. The head of the landslide was covered with plastic sheets to prevent additional rain water from entering the slide.

Disease Control

The West Nile virus, a mosquito-borne disease never before reported in the Western Hemisphere, has caused encephalitis in people in the New York City area. Birds are the natural hosts for this virus, which can be transmitted from infected birds to humans and other animals through bites of infected mosquitoes. The USGS is collaborating with the Centers for Disease Control and Prevention, New York Department of Environmental Conservation, New York State Public Health officials, and the U.S. Fish and Wildlife Service to conduct field investigations for West Nile virus from birds collected in New York City and in the New York area. The agencies researched which wildlife species were involved, what the geographic and temporal distribution of the new virus was in bird populations, and where the virus might be expected to expand beyond the currently reported sites. There is concern that if migratory birds are infected, the virus will move farther south during fall migration.

Grasslands

USGS scientists at the Northern Prairie Wildlife Research Center in Jamestown, N. Dak., took a lead role in evaluating the importance of grassland fields enrolled in the Conservation Reserve

Program (CRP) to breeding birds in the northern Great Plains. For eight consecutive years beginning in 1990, researchers at Northern Prairie have surveyed breeding birds in about 400 CRP fields in Montana, North Dakota, South Dakota, and Minnesota. Results from this ongoing study showed that CRP grasslands provide critical breeding habitat for many grassland birds and upland-nesting waterfowl, including several species that have shown population declines during the last quarter century. Findings from this study were instrumental in demonstrating the wildlife benefits of the CRP, which led to its renewal in the 1995 Farm Bill, and in designating most of the Prairie Pothole Region as a priority conservation area for the CRP. In addition to quantifying the importance of CRP to grassland birds, the study was able to demonstrate the subsequent effects of mowing on breeding bird populations of CRP fields.

USGS scientist conducting a bird census in a Conservation Reserve Program grassland field.

Assessing the Impacts of Climate Variability and Change on the Nation's Resources

The USGS is a major supporter of the "U.S. National Assessment: The Potential Consequences of Climate Variability and Change," in conjunction with the U.S. Global Change Research Program. The assessment is applying research findings to help understand the potential impacts, both detrimental and beneficial, that global change may have on the environment, society, and the economy. The USGS has responsibility for assessing four regions (Rocky Mountains and Great Basin, Alaska, Southwest, and Hawaii and Pacific Islands), as well as the Nation's water sector. Regional assessments are being conducted as a public-private partnership by leading academic institutions in each region. Workshops have been held to identify key issues and information needs in each region. The assessment will link research by scientists to specific needs of a broad spectrum of stakeholders and will provide planners, managers, organizations, and the public with the information needed to increase resilience to climate variability and cope with climate change. The National Assessment was completed in 1999, with an in-depth analysis and synthesis of the regional information.

Center for Integration of Natural Disaster Information

The USGS's Center for Integration of Natural Disaster Information (CINDI) is a research facility for (1) developing and evaluating technology for information integration and dissemination, (2) performing research in data integration, analysis, modeling, and decision support, and (3) supporting the ongoing evolution of the USGS processing and delivery of hazards data. Priorities for the data integration research activities of the CINDI include processing near-real-time data from multiple sources (such as instrument networks, derived products from classified sources, public satellite data, and standard USGS information products) and data covering the entire Nation. Research results are used in the development of applications and tools that will help citizens, local and State officials, and Federal managers use scientific observations to make well-informed decisions.

Minimizing loss of life and property, as well as reducing economic losses, reinforces the critical need for new and emerging information technologies to improve the near-real-time collection, integration, and delivery of natural hazards information. These risks can be reduced if people take well-informed actions before a disaster and make appropriate responses when a disaster occurs.

Heritage Assets
Annual Stewardship Information for the Fiscal Year Ended September 30, 1999

Heritage assets are property, plant, and equipment (PP&E) that possess one or more of the following characteristics: historical or natural significance; cultural, educational or aesthetic value; or significant architectural characteristics. The cost of heritage assets is not often relevant or determinable. In addition, the useful life of heritage assets is generally not reasonably estimable for depreciation purposes. The most relevant information about heritage assets is their existence and condition. Therefore, heritage assets are reported in terms of physical units.

Museum Property

Museum Property	FY 1999	FY 1998
Number of bureau units holding museum property:	5	5
Number of other institutions holding museum property for bureau:	2	2
Last year data were updated:	1991 (Nonbiological collections) 1999 (Biological collections)	
Objects in bureau facilities:		
Art	61	61
History	9	10
Biology		31
Zoology	12,414	0
Objects in other institutions:		
History	1	1
Biology		36,000
Zoology	25,770	0
Objects added this year:		
Zoology	968	0
Total number of bureau objects:	39,227	36,106

Description of the Methods of Acquisition and Withdrawal of Heritage Assets

No museum objects have been acquired or withdrawn since the USGS museum program began. The differences shown in the Museum Property table (at left) for FY 1998 and FY 1999 were identified in the 1999 inventory of the biological collection. Biological specimens are acquired through annual field collections. (Field collections are not performed on private property without the owner's permission.)

Condition of the Assets and Estimated Deferred Maintenance

The heritage assets are in good condition, and no maintenance has been deferred.

Scientific Library Collection

Description of Heritage Asset Category

The U.S. Geological Survey Library collections cover all aspects of the earth sciences and related subjects. The scientific library collection is as comprehensive as possible in the coverage of worldwide literature. Extensive sets of State and foreign geological survey publications, as well as publications from geological and other scientific societies, universities and institutions, and other government agencies throughout the world, are included in the library's collection. Special collections include the George F. Kurt collection of books on gems and minerals; the Alvison collection on Russian geology, minerals, and mining; extensive photographs taken during USGS field work; and field notebooks and additional material relating to USGS projects.

The Number of Physical Units at Yearend

The U.S. Geological Survey Library contains 1.6 million books and periodicals and 1.3 million nonbook items for a total of 2.9 million items.

Units added during the year	12,000
Units withdrawn during the year	8,000

Description of the Methods of Acquisition and Withdrawal of Heritage Assets

Materials are acquired from extensive exchange agreements with institutions and agencies worldwide, from research projects, and by purchases from a wide variety of publishers and institutions. Items are withdrawn only after the professional library staff has made a critical analysis of the collection.

Condition of the Assets and Estimated Deferred Maintenance

Approximately 35 percent of the collection is in good condition, 40 percent is in fair condition, and 25 percent is in poor condition. No maintenance related to the library collection has been deferred.

The U.S. Geological Survey Library System headquartered in Reston, Va.

Deferred Maintenance

The USGS owns assets such as land, buildings and structures (including office buildings, storage buildings, warehouses, laboratories, river cableways, and wells), equipment related to a facility and specialized research equipment, monitoring networks, roads, and vessels. These assets are fundamental to provide timely warnings and scientific understanding of natural hazards, to measure trends in water quality, and to provide the scientific understanding and technologies needed to support the sound management and conservation of our Nation's biological, energy, water, and mineral resources. There is, however, a significant maintenance backlog relative to these assets, arising from the lack of sufficient annual funding to fully cover maintenance expenses and from unforeseen circumstances such as hurricanes and flood damage.

The bureau defines deferred maintenance as "maintenance that was not performed when it should have been or when it was scheduled and which, therefore, was put off or delayed for a future period." It is the unfunded or otherwise delayed work required to bring a facility or item of equipment to a condition that meets acceptable codes, laws, and standards and preserves the facility or equipment so it continues to provide acceptable services and achieves its expected life. The USGS prepared a listing of deferred maintenance projects based on departmental and bureauwide guidance issued for the FY 2001 Five-Year Maintenance and Capital Improvement Plan.

The amount necessary to correct this backlog is approximately $60 million to $100 million. Because the actual cost of correcting this backlog will not be known until the work is performed and because condition assessments have not been completed, this amount is by necessity an estimate.

The following factors were considered in arriving at this estimate:

- Inclusion of deferred maintenance for property such as buildings, cableways, gaging stations, equipment, roads, and vessels;
- Exclusion of property such as passenger vehicles, ADP (automated data processing) equipment, land, and printing presses;
- Exclusion of items such as routine maintenance (annual and cyclical) and capital improvement projects as defined in the departmental guidance.

The USGS does not currently have in place a formal process for periodic condition assessment surveys, but that process is now being planned. To develop the deferred maintenance estimate, the bureau canvassed each facility and office to prepare a listing of deferred maintenance projects bureauwide. The deferred maintenance estimate will change as the bureau improves the procedures for accumulating and tracking data and begins formal condition assessments.

U.S. Geological Survey Working Capital Fund

The USGS Working Capital Fund (WCF) was established by Public Law 101–512, November 5, 1990. As codified in 43 U.S.C. 50a, Public Law 103–332, dated September 30, 1994, modified the original language; the law states:

> There is hereby established in the Treasury of the United States a working capital fund to assist in the management of certain support activities of the United States Geological Survey (hereafter referred to as the "Survey"), Department of the Interior. The fund shall be available on or after November 5, 1990, without fiscal year limitation for expenses necessary for furnishing materials, supplies, equipment, work, facilities, and services in support of Survey programs, and as authorized by law, to agencies of the Federal Government and others. Such expenses may include laboratory modernization and equipment replacement, computer operations, maintenance, and telecommunications services; requirements definition, systems analysis, ad design services; acquisition or development of software; systems support services, such as implementation assistance, training, and maintenance; acquisition and replacement of computer, publications, and scientific instrumentation, telecommunications, and related automatic data processing equipment; and, such other activities as may be approved by the Secretary of the Interior.

The WCF is divided into two entities, Capital Investments and Fee-for-Service Operations. The key purpose of the Capital Investments entity is to plan for long-term capital investments and accumulate the required funds over several fiscal years. The USGS is authorized to use the WCF to invest funds from appropriations and (or) reimbursable agreements, without fiscal year limitations, for materials, supplies, telecommunications, and other equipment and facilities renovations in support of USGS programs and other agencies of the Federal Government. Normal operating expenses may not be funded through the WCF. Investments must occur, at a minimum, in two fiscal years before acquisition can occur and are expected to be evenly balanced over the time period defined in the Investment Plan. The Capital Investments entity is divided into five investment components:

- Mainframe Computer Investment Component, whose major customer* is the Office of Program Support of the USGS
- Telecommunications Investment Component, whose major customer is the Office of Program Support of the USGS
- Equipment Investment Component, whose major customers are the Water Resources Division and Geologic Division of the USGS
- Facilities Investment Component, whose major customers are the Office of Program Support and the Water Resources Division of the USGS
- Publications Investment Component, whose major customer is the Geologic Division of the USGS

*Major customers are organizations that account for more than 15 percent of the fund's revenues.

The Fee-for-Service Operations entity operates in a businesslike manner, by recovering fees for services performed based on an established fee schedule. Fees are established through a rate-setting process. The Fee-for-Service components operate in compliance with the Office of Management and Budget (OMB) Circular A–25, "User Charges," and recover the full cost of goods, services, and resources provided to customers. For each Fee-for-Service component, an annual budget and pricing schedule is required. User charges are reviewed no less than biennially. Presently, there are six Fee-for-Service components:

- Water Resources Division National Water Quality Laboratory, whose major customer is the Water Resources Division of the USGS
- Water Resources Division Hydrologic Instrumentation Facility, whose major customer is the Water Resources Division of the USGS
- Bureau-Level Publications, whose major customer is the Geologic Division of the USGS
- Water Resources Division Eastern Research Laboratories, whose major customer is the Water Resources Division of the USGS
- Water Resources Division National Training Center Component, whose major customer is the Water Resources Division of the USGS
- Water Resources Division Drilling Component, whose major customer is the Water Resources Division of the USGS

U.S. Geological Survey
Working Capital Fund Balance Sheet
As of September 30, 1999
[Dollars in thousands]

	1999
Assets	
Fund Balance with Treasury	**$45,683**
Cash and Foreign Currency	
Accounts Receivable Billed:	
Due from Federal Agencies	
Due from the Public	**1**
Accounts Receivable Unbilled:	
Due from Federal Agencies	**5,446**
Due from the Public	**206**
Inventory	
Operating Materials & Supplies	
Property & Equipment, Net of Depreciation	**2,869**
Interest Receivable	
Advances to Others:	
Due from Federal Agencies	
Due from the Public	
Other Assets	**113**
Total Assets	**$54,318**
Liabilities	
Liabilities Covered by Budgetary Resources:	
Accounts Payable:	
Due to Federal Agencies	**$401**
Due to the Public	**1,779**
Deferred Revenue:	
Due to Federal Agencies	**49,201**
Due to the Public	**349**
Accrued Payroll & Benefits:	
Due to Federal Agencies	**78**
Due to Employees	**606**
Liabilities Not Covered by Budgetary Resources:	
Accrued Unfunded Annual Leave	
Actuarial Liabilities	
Estimated Future Liabilities	
Contingent Liabilities	
Total Liabilities	**$52,414**
Net Position	
Unexpended Appropriations	**$0**
Cumulative Results of Operations	**1,904**
Total Net Position	**$1,904**
Total Liabilities & Net Position	**$54,318**

Automated, nine-collector Finnigan-MAT 262 mass spectrometer equipped with ion-counting capabilities. This spectrometer is used by the U.S. Geological Survey in Reston, Va., for automated analysis of lead, strontium, neodymium, uranium, thorium, rubidium, samarium, and boron. Isotopes of these elements are used to understand ore-forming processes and to date rocks.

Performance Measurement—
Program Results, Cost Measurement, and Cost Effectiveness

Revised Final FY 1999 Annual Performance Plan

The refocused strategic plan and the preliminary FY 2000 annual performance plan were submitted to the Office of Management and Budget (OMB) in September 1998 and were subsequently used during OMB's review of the FY 2000 budget request. The positive reception of the new plans by the Department of the Interior and OMB encouraged the USGS to use the new FY 2000 format and goals in revising the FY 1999 annual performance plan. This approach provided the USGS with the opportunity to immediately begin establishing performance trends in FY 1999, rather than tracking a suite of performance measures in FY 1999 that would be substantially changed in FY 2000.

The GPRA program activity concept is used to better relate goals to the existing budget structure, to present both budget and performance information in a more thematic way, and to enhance the plan's informative value. The two mission goals from the USGS refocused strategic plan are used as the GPRA program activities in the annual performance plan. Each mission goal or GPRA program activity has one associated long-term goal that identifies target levels and the timeframe of performance for the strategic plan. Each of the strategic plan's long-term goals has one associated annual goal that identifies the annual performance increment necessary to achieve the long-term goal, as well as any change proposed to result from program and budget initiatives. Each annual goal has five performance measures—a total of ten for the entire annual plan.

Each long-term and annual goal begins by acknowledging the need to ensure continued maintenance and improvement of long-term data collection networks and efforts required by our stakeholders; therefore, each annual goal has a performance indicator to document associated infrastructure requirements. These measures are included to ensure that each program activity in the program & financing (P&F) schedule, as well as every major program, function, or operation, is reflected in the annual plan. Stakeholder meetings are identified as performance indicators for each of the annual goals to capture follow through on the strategic direction's focus on increased customer involvement to strengthen our scientific leadership and our contribution to the resolution of complex issues. Each of the long-term goals cites specific performance targets—a total of three—to be achieved by FY 2005. These long-term targets are annualized in the annual goals and carried into associated performance measures. Because these three performance measures are most indicative of achievement of our long-term goals, they have been selected for highlighting in the FY 1999 DOI Accountability Report and USGS Annual Financial Report (this report). FY 1999 performance relative to all 10 measures will be discussed in the GPRA FY 1999 Annual Report.

FY 1999 Performance Tracking

An intranet-based performance reporting system was developed to track FY 1999 performance. Program officers collected and verified performance data from program/project managers for the budget line items within their purview. Data received a final verification at the bureau level to ensure that reported components were discrete entities and were not counted twice, particularly in the more vulnerable areas such as integrated science investigations for which several different line items supporting a single investigation could have resulted in counting by more than one program manager.

The GPRA program activity concept captures the contribution of all program activities to a common mission requirement by applying a single set of annual goals and performance measures across

four P&F schedules—National Mapping Program (08040001), Geologic Hazards, Resources and Processes (08040002), Water Resources Investigations (08040003), and Biological Research (08040004). The remaining two P&F schedules—General Administration (08040005) and Facilities (08040006)—support all programmatic activities, and their funding has been distributed on a prorated basis to the two GPRA program activities (Hazards and Environment and Natural Resources). The two GPRA program activities are responsibility segments for financial reporting, and data are captured in financial systems.

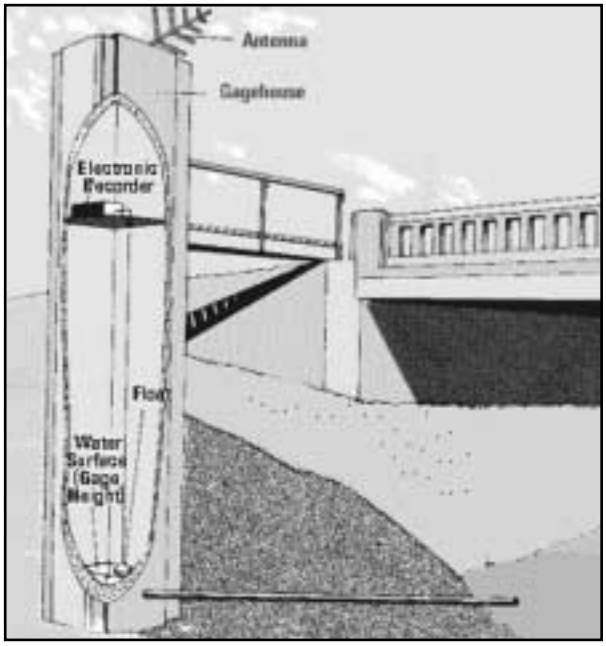


Diagram showing telemetry added to a streamgage. The antenna on top of the gagehouse transmits the gate-height records to a satellite; the date are then relayed back (telemetered) to Earth in real time. From USGS Open-File Report 95–713.

FY 1999 Performance Data—Hazards

FY 1999 Annual Performance Goal

The FY 1999 annual performance goal for Hazards is to develop, maintain, and improve monitoring networks and techniques of risk assessment by the following:

- Maintaining the baseline of data and risk assessments transferred to customers
- Increasing by 100 sites streamgages with real-time capability
- Increasing by 20 improved earthquake sensors

As shown in the tables below, the USGS met or exceeded the two key performance measures for the Hazards goal.

Performance measures	FY 1997 actual	FY 1998 actual	FY 1999 plan	FY 1999 actual
Real-time streamgages (cumulative)	4,467	4,571	4,671	5,132
Real-time earthquake sensors (cumulative)	70	100	120	120

Performance measure definition	FY 1998 baseline	Data collection methodology and sources	Validation
Real-time streamgages Telemetry is added to existing streamgages to provide real-time flow data for weather forecasters and emergency management and response officials.	4,571 of 6,900 gages were instrumented by the end of FY 1998. Telemetry will be added to 100 gages per year if funding is constant.	Annual inventory of stream-gaging stations conducted by all USGS Water District Offices and reported at the end of the fiscal year.	Certification by each district chief and the chief of the Office of Surface Water.
Real-time earthquake sensors Ground-motion detectors are the initial instruments installed to capture and transmit real-time data.	100 strong-ground-motion detectors are installed and operating; 20 improved sensors will be installed per year if funding is constant.	Annual inventory of earthquake sensors conducted by seismic network operators and reported at the end of the fiscal year.	Certification by the coordinator of the Earthquake Hazards Program.

Even though the USGS exceeded our streamgage telemetry target for FY 1999, our verification and validation efforts have compelled us to propose a revision of this performance measure for FY 2000. Because the USGS has the responsibility to deliver hazards information to the National Weather Service and others, the reliability of the systems that deliver streamflow data is a crucial component of USGS performance. In addition, we encountered problems with collecting reliable performance data on a quarterly basis to provide timely information for management purposes. Answering questions such as the following is fundamental to the validation process for USGS performance data:

- During floods or other natural disasters, can the USGS continue providing data to those who need it, by using electrical generators and "mirror" web sites and other system backups?
- Under normal circumstances, on a day-to-day basis, how reliable are USGS web sites that provide data?
- How reliable are the individual data collection stations and the satellite links and other systems that relay the data from the stream to the USGS National Water Information System data base?

The USGS is proposing to change our real-time streamgage measure to reflect not only the number of real-time streamgages put in place each year but also the USGS ability to deliver hazards data to those who need it and to automate the performance tracking process as well. The USGS developed a computer program to query each USGS Water District Office web site every day to ask, "How many sites are delivering real-time data on the web right now?" This query results in a total number of gaging stations across the Nation that are delivering real-time data over the Internet at that particular moment. These queries may result in numbers that vary from day to day for several reasons:

- USGS Water District Office computers can be affected by maintenance problems, storms, or power outages
- The satellites that transmit the data can be affected by solar interference or heavy storm activity
- Individual gaging stations may be out of commission at the moment of the query due to weather, high water, power outages, vandalism, or routine maintenance activities or quality-control activities

At the end of the quarter, all the daily values collected by the program will be averaged, resulting in one number that represents the quarterly average number of gages reporting real-time data on the Internet—the USGS proposed performance measure for FY 2000 and beyond. A test run of this method conducted for 15 days resulted in a baseline average of approximately 4,500 gages reporting real-time data over the Internet.

The USGS is also exploring alternatives for modification of the earthquake sensor performance measure to better capture our ability to deliver hazards data to those who need it and to automate the performance tracking process.

Cost Performance

The USGS planned to obligate approximately 15% of our FY 1999 appropriation to achievement of the Hazards goal. Actual obligations and expenditures for FY 1999 totaled 14% of appropriated and reimbursable funds.

FY 1999 Performance Data—Environment and Natural Resources

FY 1999 Annual Performance Goal

The FY 1999 annual performance goal for Environment and Natural Resources is to provide and improve long-term environmental and natural resource information, systematic analysis and investigations, and predictive options for decisionmaking about natural systems by the following:

- Providing essential information to address environmental and natural resources issues by maintaining 38 long-term data collection/data management efforts and supporting 2 large data infrastructures managed in partnership with others
- Delivering 843 new systematic analyses and investigations to customers
- Improving and developing 6 new decision-support systems and predictive tools for decisionmaking
- Collaborating with university partners to understand natural systems and facilitate sound management practices through 272 external grants and contracts

As shown in the tables below, the USGS exceeded our key performance measure for the Environment and Natural Resources goal; an additional water-resource predictive model was completed and in use by stakeholders by yearend FY 1999.

Performance measure	FY 1997 actual	FY 1998 actual	FY 1999 plan	FY 1999 actual
Decision-support systems or predictive models developed or improved and delivered to customers	Not available.	5	6	7

Performance measure definition	FY 1998 baseline	Data collection methodology and sources	Validation
Decision-support tools and predictive models are broad in scope, are robust, yield either quantitative predictions about natural resources or the environment or quantitative options for land and resource management, and are used regularly by managers for informed decisionmaking.	5 decision-support systems or predictive models developed or improved and delivered to customers per year (average one per scientific discipline within the USGS plus one for integrated science).	Data on development, delivery, and use of decision-support systems and predictive models are monitored and reported by project scientists at research field centers and are reported through automated, electronic systems such as those at http://water.usgs.gov/software/ for new water investigation models and http://www.nbs.gov/science/currproj.html for biological models in the Science Information System.	For mapping models, the senior program advisor for geographic research and applications validates delivery and use by customers. For geologic models, validation is conducted by program councils and stakeholder representatives. For water-resource models, a technical memorandum is issued for each model. For biological models, validation occurs through national program element reviews and reviews of individual research centers Ultimately customers indicate whether systems and models are acceptable and useful.

Cost Performance

The USGS planned to obligate approximately 85% of our FY 1999 appropriation to achievement of the Environment and Natural Resources goal. Actual obligations and expenditures for FY 1999 totaled 86% of appropriated and reimbursable funds.

Financial Performance

The USGS is committed to ensuring the integrity of its financial data, operating in an efficient and effective manner, and providing quality data to our customers and constituents. These are the same objectives held by the financial managers in the Department of the Interior. Accordingly, the USGS has endorsed and adopted the department's financial management performance goals. These goals, the criteria used to measure USGS performance, recent performance, and target goals are shown below.

Goal 1

Goal 1 is to strengthen the integrity of financial operations to ensure accuracy of financial data and management control over activities.

Objective 1.A. Achieve and maintain unqualified (clean) audit opinions on the USGS financial statements.
Performance measure. Audit opinion of financial statements.
Results. See table below.

Measure	FY 1997	FY 1998	FY 1999
Audit opinion	Unqualified	Unqualified	Unqualified

Objective 1.B. Correct within 1 year 75% of the audit findings reported in financial statement audits and correct all internal control weaknesses within 3 years of being reported.
Performance measure. Percentage of new internal control weaknesses corrected within 1 year and 3 years.
Results. See table below.

Measure	FY 1997	FY 1998	FY 1999
Fiscal year action	No findings	40%	In progress

Goal 2

Goal 2 is to optimize financial management operations to increase customer satisfaction and decrease costs.

Objective 2.A. Reduce the percentage of payments with interest penalties and the percentage of interest paid to a level at or below the governmentwide average.
Performance measure. Percentage of late payments requiring interest penalties based on the number of payments subject to the Prompt Payment Act.
Results. See table below.

	Actual performance			Target	
Measure	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001
Interest payment as a percentage of total payments.	5.2%	4.1%	2.5%*	3.0%	3.0%
Amount of interest payments.	$152,000	$104,000	$48,000	$75,000	$75,000

* The USGS has met and exceeded the department's performance goal.

Objective 2.B. Use electronic funds transfer (EFT) to the maximum extent possible to include all payments except those covered by waiver.
Performance measure. Percentage of vendor payments made via EFT and bank card and the percentage of miscellaneous payments made via EFT, bank card, and other electronic means.
Results. See table below.

	Actual performance		Target	
Measure	FY 1998	FY 1999	FY 2000	FY 2001
Vendor payments made via EFT.	38%	68%	95%	96%
Miscellaneous payments made via EFT.	68%	93%*	85%	90%

*The USGS has met and exceeded the department's performance goal.

Objective 2.C. Transfer all eligible delinquent debt to the Department of Treasury.
Performance measure. Percentage of eligible delinquent debt transferred to the Department of Treasury.
Results. See table below.

	Actual performance			Target	
Measure	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001
Percentage of eligible delinquent debt transferred.	36%	94%	90%	90%	90%

Goal 3

Goal 3 is to improve financial performance reporting to better support management decisions at all levels and to ensure compliance with the Government Management Reform Act and the Government Performance and Results Act.

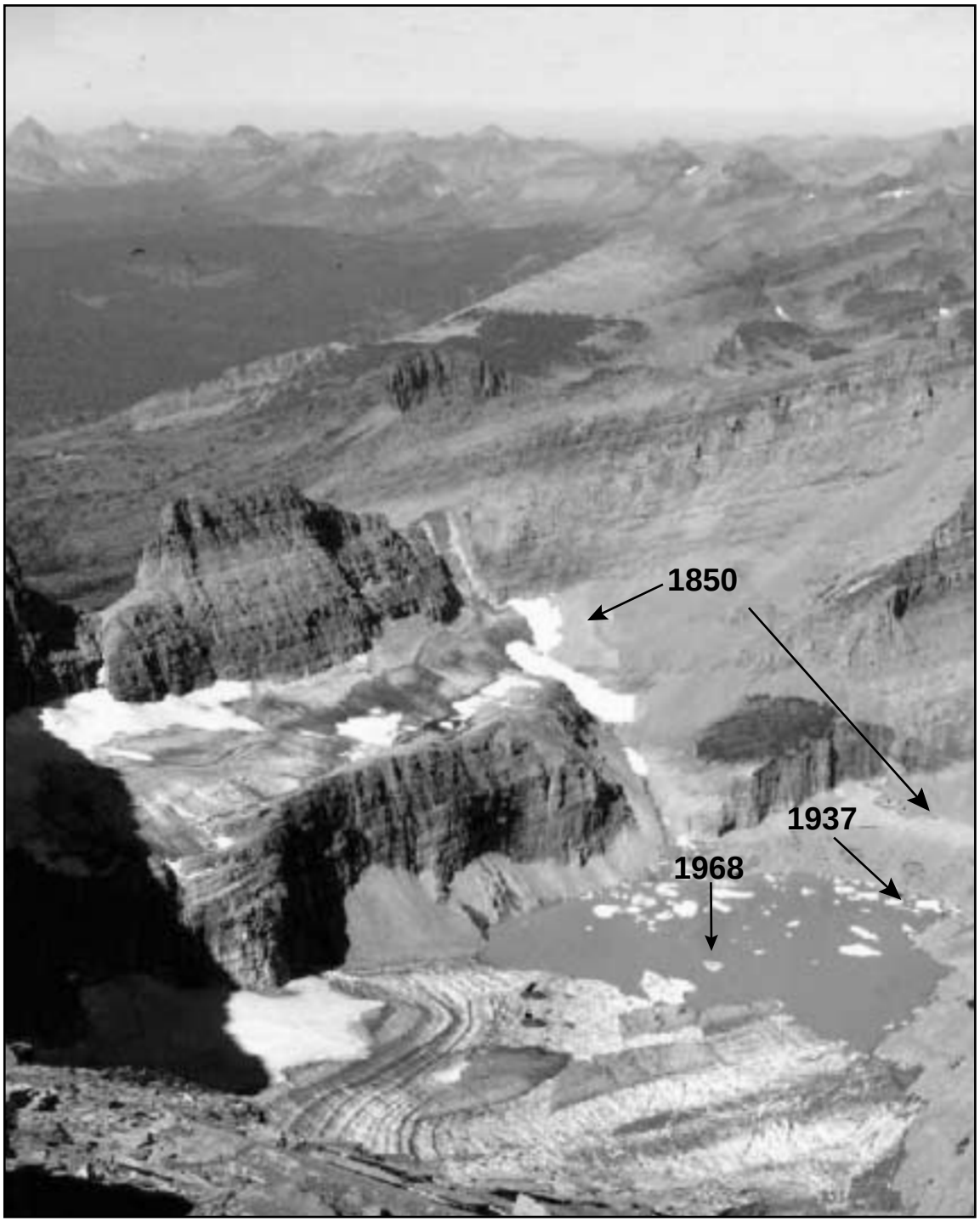
Objective 3.A. Increase reporting of performance information in the annual financial report and increase the number of measures that include cost information.
Performance measure. Percentage of USGS critical performance goals reported in the annual financial report.
Results. See table below.

	Actual performance		Target	
Measure	FY 1998	FY 1999	FY 2000	FY 2001
Percentage of performance goals in annual report.	-	100%*	90%	90%
Percentage of performance goals including cost data.	-	100%*	30%	40%

*The USGS has met and exceeded the department's performance goal.

Objective 3.B. Produce interim financial statements.
Performance measure. Number of interim financial statements per year and interim performance data reports per year.
Results. See table below.

	Actual performance		Target	
Measure	FY 1998	FY 1999	FY 2000	FY 2001
Number of interim financial statements.	0	1	4	4
Number of interim performance reports.	0	0	2	4



Grinnell Glacier in Glacier National Park, Mont.; photograph by Carl H. Key, USGS, in 1981. The glacier has been retreating rapidly since the early 1900's. The arrows point to the former extent of the glacier in 1850, 1937, and 1968. Mountain glaciers are excellent monitors of climate change; the worldwide shrinkage of mountain glaciers is thought to be caused by a combination of a temperature increase from the Little Ice Age, which ended in the latter half of the 19th century, and increased greenhouse-gas emissions. For more information on climate change, see http://chht-ntsrv.er.usgs.gov/projects/ere.glaciers.html.

Customer Service

Since 1997, the USGS has increased efforts to create customer awareness within the organization, integrate customer feedback into its program planning, and actively find out how customers feel about USGS products, services, and information, as well as the way these services are delivered.

Customer service has become so important to the USGS that in 1999 customers became a key component of our strategic plan. Activities are underway to capture information about our customers, their interests and needs, and their satisfaction with the USGS. In 1999, the Office of Management and Budget approved a 3-year plan for collecting information from USGS customers. This plan will enable the USGS to survey and interview non-Federal customers in a formalized, statistically valid manner that will provide baseline data regarding customer perceptions.

The USGS has set standards for customer service. When interacting with the USGS, customers can expect the following:

- Relevant, impartial scientific information about the natural sciences and support systems for these sciences
- Courteous and respectful treatment
- Prompt and accurate answers to questions
- Timely responses to information requests without being referred elsewhere, whenever possible
- Consideration of customer input to our plans, programs, and services
- Prompt attention to correcting mistakes and problems

To ensure that we meet these standards and provide our customers with excellent service, products, and information, the USGS has set customer service goals. These goals follow:

Get Put on Hold and Love It?

A frequent complaint of persons conducting business by telephone is the amount of time they spend waiting on hold, forced to listen to silence or music. This is not the case with callers to the U.S. Geological Survey in Menlo Park, Calif. Callers have the opportunity to learn something while they are holding. Some like it so well that they are calling USGS offices and saying, "I really don't want to talk to anyone, but could you just put me on hold for a few minutes?"

The object of their new-found audio delight is a series of questions and answers about planet Earth and its neighbors. Ranging from earthquakes to water usage and the temperature of the surface of Venus, the 196 responses give the caller a montage of interesting scientific facts and figures. A caller rarely hears the same material twice. An example of the material a caller might hear follows:

Question: "Where and when did the largest earthquake occur in the twentieth century?"
Answer: "The 1960 Chilean earthquake, which occurred off the coast of South America. It had a magnitude of 9.6 and broke a fault over 1,000 miles long."

The questions and answers are generally grouped according to subject matter or science discipline. Callers can continue to sample the "Science Challenge Questions and Answers" by calling the USGS at 650–853–8300, between 8 a.m. and 4 p.m. (PST), Monday through Friday, and asking to be put on hold. The questions and answers are also available as USGS Open-File Report 98–507–A and B; see http://www.usgs.gov/sci_challenge.html.

- **Goal 1.** USGS customers are satisfied with USGS products, information, and services
- **Goal 2.** USGS products are delivered to USGS customers in a timely and accurate manner
- **Goal 3.** Customers needs are integrated into USGS program planning and product development
- **Goal 4.** Products, services, and information provided by the USGS to customers make this a better world

lects information that helps to assess how well the USGS is meeting these goals. A report on customer service performance is prepared and made available to USGS customers. A copy of our latest report, the 1998 Report to Customers, can be found online at http://www.usgs.gov/customer.

Highlights of progress made in meeting these goals for FY 1999 follow:

The USGS Biological Resources Program sponsors an annual survey of its partners and customers to determine satisfaction levels with various products and services offered by the program. Preliminary results from the fourth annual customer survey found that 96% of the customers were satisfied or very satisfied (51% very satisfied, 45% satisfied) with the products and services. This year, the list of surveyed products was improved by using the list in the USGS FY 2000 annual performance plan and providing a link to the products reported pursuant to the Government Performance and Results Act (GPRA). The survey also documented the outcomes that result from customers' use of USGS information and provided many useful suggestions for improving products.

Feedback from USGS Customers

A university customer said, "I have been extremely pleased with the help of bird banding lab personnel, who are friendly, respond rapidly and appear to understand quickly the problems I have posed—be it questions about permits, needs for new permit coverage, or bands in midseason. As one example, I unexpectedly ran out of one band size in June and they apparently responded to my SOS for that band size, as I received it very promptly at a time when bands are often in short supply."

A State customer noted that "my major concern is where actual collection of critical survey data has been compromised through budget limitations and issues related to vessel maintenance."

A Fish and Wildlife Service customer suggested that "sometimes it is difficult for me to tell which bird was which on the reports. I would suggest a code or other numbering system that matches up the species, place, date and specimen number between your lab and the field people shipping the specimens."

A State customer reported that "the information and analysis provide a level of expertise and familiarity not otherwise available to the Regional Water Board. The products and services provided have met our needs, and exceeded our expectations."

A nongovernment customer responded that "if we had not been able to identify what was killing some of the local bird population, we would not have been able to act so quickly to help control the problem."

The USGS is focusing customer service improvement efforts in all business areas and science programs, as well as administrative support programs. For example, the USGS Human Resources Office has been involved in a three-tiered study designed to evaluate the efficiency and effectiveness of human resources services throughout the USGS. The study included the following:

- **Tier One—Input.** A benchmarking study was conducted of current human resources processes and costs to determine resources expended to deliver human resources services throughout the USGS organization.

- **Tier Two—Output.** A comprehensive study of the human resource roles and responsibilities throughout the bureau was conducted to determine ways to improve efficiency, effectiveness, and customer service. Data were collected for this study through a customer survey, focus groups with human resources staff and line managers, and interviews with senior managers. The study team made recommendations for 31 improvements.

- **Tier Three—Results.** An all-employee survey, called the organizational assessment survey, was underway to determine the impact of human resource and equal employment opportunity programs and initiatives on the organization as a whole. The outcome of the study will provide answers to questions like "Where are we spending our money and time? What do we need to be doing differently? Are we achieving the desired results? How does it all relate to our customers' wants and needs, both now and into the future?"

Based on the results of the input and output tiers of the study, bureau strategic planning efforts, benchmarking reports, and staff input, a business model has been developed for providing human resource services. Tenets that reflect operating values within this business model have also been designed. The business model is a framework for making decisions about human resource products and services, reflects a commitment to USGS customers, and serves as a yardstick for evaluating service. The three-tiered approach provides baseline data that, when combined with the newly developed business model, will move the USGS Human Resources Program in a direction that is both strategic and customer-driven.

Feedback from USGS Customers

A customer from the National Park Service said, "This product was extremely helpful in interpreting the geologic past during the Holocene. It is information that we can use to interpret the significance of geology to the general public."

A customer from the Bureau of Land Management said, "Information developed by this group will be very helpful in determining the impact of our management actions in northwest Oregon forests. The actions and decisions affected include timber sales, operation of recreation facilities, and maintenance of forest road systems and protection of important wildlife habitats. The associated issues are very important and the subject of public attention and debate. The research findings will help provide information on issues where very little scientifically credible information exists."

The USGS Earth Science Information Management and Delivery Program continues to provide the public with access to geospatial information that is convenient, timely, and either free or reasonably priced. Some examples follow:

- Through online search, access, and delivery tools, customers can find and download—at no charge—digital line graphs, digital elevation models, and land use land cover information. They can locate and order over 11 million frames of aerial and space photographs, 50,000 USGS maps, and 130 terabytes of digital imagery and cartographic data. Ordering information is available online at http://edc.usgs.gov/doc/edchome/ndcdb/ndcdb.html and http://mapping.usgs.gov/www/products/status.html and http://edc.usgs.gov/webglis.

- In partnership with Microsoft, the USGS provides online access to view digital orthophotoquad images at the TerraServer web site, http://terraserver.microsoft.com. The images on the customer's screen can be downloaded at no cost.

- The National Atlas project, at http://www.nationalatlas.gov, makes it possible for customers to download map layers as well as to design and print their own maps.

- Through a toll-free number, 1–888–ASK–USGS, eight Earth Science Information Centers answer customer inquiries and provide support to customers who want to order USGS products. The USGS has improved customer service and increased customer access to geospatial data with expanded data inventories, reduced delivery times, web downloads, electronic transaction processes, a new USGS search engine (http://search.usgs.gov), a reconfigured warehouse, and a perpetual inventory.

Wings-in-Flight Program Involves Children in Science

Over 200 children participated in the Wings-in-Flight Program, a FY 1999 human resources initiative involving young people who have disabilities or who are economically disadvantaged. The program activities fostered interest in the USGS disciplines of biology, cartography, geology, and hydrology. The program sponsored educational field trips to cooperating Maryland, Washington, D.C., and Virginia parks. During the field trips, participating USGS staff and volunteers worked with park interpretive staff and student organizations to provide information and informal instruction geared to the specific location. Activities were designed for the abilities of the participants. It was especially rewarding to hear from the participants that they found the activities to be memorable and hoped to continue to use the nets to carefully catch and release frogs (without harming them) when back at home and school.

In 1999, the USGS Branch of Information Services in Denver, Colo., received an Excellence in Customer Service award sponsored by the Denver Federal Executive Board. As a Reinvention Lab Team under the National Performance Review, the Branch of Information Services has streamlined and automated ordering and inventory processes and has made significant improvements to financial management practices. Through partnerships with more than 2,000 businesses, it is making maps and other products more readily available to the American public.

Feedback from USGS Customers

A satisfied map purchaser said, "Great web site! This online ordering of 7.5 minute topo maps–zoom and click, and then call in your credit card–is terrific."

In a letter of recommendation for a USGS scientist's Superior Service Award, the Director, Intermountain Region of the National Park Service, said, "The diverse management objectives for large mammals across the public lands often result in public attention and, sometimes, controversy. Credible, unbiased science is imperative in evolving the most sustainable management decisions regarding large mammals on public lands. [USGS scientists have] shown consistent leadership in designing, implementing, and providing results of objective research on large mammals to the National Park Service, Bureau of Land Management, and other managers of wildlife on the public lands."

Supplemental Information—
FY 1999 Accomplishments

Hazards

USGS hazards mission activities deal with describing, documenting, and understanding natural hazards and their risks. These activities include long-term monitoring and forecasting, short-term prediction, real-time monitoring, and communication with civil authorities and others during a crisis. Other significant activities are (1) postcrisis analysis and development of strategies to mitigate the impact of future events and (2) preparation of coordinated risk assessments for regions vulnerable to natural hazards. Examples of accomplishments in these mission activities follow.

Earthquake Probabilities in the San Francisco Bay Area

A major new report on the probability of large earthquakes in the San Francisco Bay area during the next 30 years was prepared in FY 1999 (see the summary at http://geopubs.wr.usgs.gov/fact-sheet/fs152-99). The report concludes that, between 2000 and 2030, there is a 70% probability that the bay area will experience one or more large (magnitude 6.7 or greater) damaging earthquakes within the urban core and rapidly developing suburban corridors. The 2-year study was a major cooperative effort headed by the USGS-led 1999 Working Group on California Earthquake Probabilities (WG99).

Geologist inspects settling at bridge pier due to soil compaction caused by an earthquake in California.

More than 100 earth scientists from the Federal and State governments, the academic community, and the private sector contributed. Important data were developed through an agreement between the USGS and the Pacific Gas and Electric Company. The computer methods developed by WG99 to calculate bay area earthquake probabilities will allow more frequent updating and revising of estimates as critical new information becomes available. The methods can also be used for earthquake probability calculations in other U.S. urban centers.

Seismic Network Integration

In the past year, the USGS has made significant strides in integrating our regional and national seismic networks into a nationwide system. As a result, each of the USGS-supported regional seismic networks is now able to communicate with adjacent networks and with the U.S. National Seismic Network (USNSN) in real time. The USGS now has the infrastructure in place to share data across networks in real time and to coordinate rapid earthquake response at the regional and national levels. In addition, this networking integration provides backup reporting capability should a regional network be damaged in an earthquake. The system also allows for the beginnings of a central repository combining significant comprehensive monitoring data for all located earthquakes. Development of this system has been well coordinated between the National Earthquake Information Center, at Golden, Colo., and the regional networks, and it has also benefited from the contributions of several States, Federal agencies, and private sector companies.

Monitoring at U.S. Volcano Observatories

The Volcano Hazards Program operates four volcano observatories that collaborate with Federal, State, and local government agencies, universities, and the private sector to reduce the risk from volcanic activity. The four observatories are described below:

- The Alaska Volcano Observatory (AVO) is a cooperative effort of the USGS Volcano Hazards Program, the University of Alaska Fairbanks Geophysical Institute, and the Alaska Division of Geological and Geophysical Surveys. The AVO monitors about half of the 42 historically active volcanoes of Alaska, which threaten not only local populations but also aircraft and travelers using major air routes across the North Pacific. The AVO also disseminates warnings and information on dangerous eruptions and ash clouds from Kamchatkan volcanoes in the Russian Far East.
- The Hawaiian Volcano Observatory (HVO) conducts an intensive program of seismic, gas, ground-deformation, and observational monitoring of the frequently active volcanoes of the Island of Hawaii.
- The Cascades Volcano Observatory (CVO) in Vancouver, Wash., monitors and assesses hazards from the volcanoes of the Cascade Range of Washington, Oregon, and California. Seismic monitoring is shared with the USGS center in Menlo Park, Calif. (for northern California), and the Geophysics Program of the University of Washington in Seattle (for Washington and Oregon). The CVO also is home to the Volcano Disaster Assistance Program.
- The Long Valley Observatory (LVO) in Menlo Park, Calif., conducts seismic, deformation, hydrologic, and geochemical monitoring and research to interpret the recent unrest and assess the hazard from the large and potentially dangerous Long Valley caldera system near Mammoth, Calif.

Information on monitoring techniques used by these observatories may be found at http://volcanoes.usgs.gov/About/What/Monitor/monitor.html.

When volcanoes threaten to erupt, new or additional seismometers are commonly set up, as on this Alaskan volcano. These instruments provide information in real time by using satellites. The USGS issues warnings on potential volcanic eruptions or eruptions that have occurred, including those in remote locations.

Geomagnetism

The USGS maintains a network of 13 magnetic observatories in the conterminous United States, Alaska, Guam, Puerto, Rico, and Hawaii. These observatories provide nationwide coverage by continuously measuring the Earth's magnetic field and carrying out periodic observations for precise determination of the geomagnetic field around the Earth. The Earth's magnetic field varies on very short time scales because of "space weather" caused by solar activity and on very long time scales because of changes in the Earth's internal magnetic field. This "main" field varies slowly but erratically with time due to processes in the Earth's core. The primary products of the geomagnetism program are mathematical models predicting the strength, direction, and variation of the main magnetic field over 5-year periods. The models are based on a continuous flow of new data involving millions of measurements of the Earth's main magnetic field from worldwide and domestic sources; the measurements must be reduced, corrected, and analyzed.

In FY 1999, a new main-field model was completed. This model will be delivered to the National Imagery and Mapping Agency of the Department of Defense in November 1999. Documentation and further distribution of this

model will be completed in FY 2000. Various maps and charts can be generated from this mathematical model of the Earth's magnetic field. These products are used in a wide range of public, commercial, and military navigation applications and as attitude/heading references in various space systems.

Flood Tracking Chart

The USGS Mississippi and Louisiana Districts recently completed a year-long effort to develop a flood tracking system for the Pearl River basin in Mississippi and Louisiana. The flood tracking system includes two components: a printed report, "The Flood Tracking Chart for the Pearl River Basin," and the flood tracking web page. The report, released as USGS Open-File Report 99–53, is a color poster that shows a map of the Pearl River basin, the location of real-time streamgaging stations in the basin, and the five highest recorded peak stages at selected stations. The flood tracking web page (http://ms.water.usgs.gov/ms_proj/flood_tracking/main.html) provides an interactive version of the flood tracking chart, which allows users to simultaneously monitor data at several streamgaging stations. The information shown for each selected site includes a plot of the river stage for the previous 3 days and, where available, the National Weather Service (NWS) river-stage forecast for the next 3 days. In addition, during flood conditions, the information shown for each site may include the NWS flood-crest forecast and, for comparison purposes, the recorded crests of five previous floods.

Feedback from User of USGS Web Site about Floods
An emergency-preparedness official in Kansas said, "Sumner County has been declared a Federal Disaster Area due to the flood we experienced October 31, November 1 and 2. The information your web page provides was very useful to our emergency-preparedness team in doing their jobs and having an idea of what to expect and we thank you very much."

Response to Hurricane Floyd

The USGS provides streamflow data that Federal and local emergency management agencies use for making decisions about when to issue flood warnings or evacuation orders. Flood forecasts can help citizens and business owners make informed decisions about moving their property out of locations that are expected to be flooded. A warning issued even an hour before flooding can result in significant savings when property is moved. The Somerville, N.J., Police Department has indicated that lives and property were saved during Hurricane Floyd in September 1999, in part because of information from a streamgage that the USGS operates in cooperation with Somerset County as part of the county's flood information system. As a result of the flood warning, 500–600 people were evacuated from the area. Many vehicles were moved before they were flooded. By moving property to a higher level, residents and businesses reduced potential damage.

Flooding and Pollution Caused by Hurricane Floyd

After Hurricane Floyd brought heavy rains September 15–16, 1999, USGS scientists from South Carolina to New York sampled water from flooded areas, streams, and rivers looking for bacteria, sediments, heavy metals, chemicals, and other contaminants.

North Carolina flood caused by Hurricane Floyd, September 1999.

USGS Employees Rescue Flood-Stranded Citizens in North Carolina

While navigating the treacherous floodwaters in North Carolina to measure the rising water caused by Hurricane Floyd, U.S. Geological Survey scientists rescued four citizens threatened by the storm.

USGS scientists regularly monitor streamflow-gaging stations built along riverbanks to ensure that the USGS flood-warning system is operating properly. In North Carolina, flooding caused by Hurricane Floyd's drenching rains severely damaged or destroyed 23 of those gaging stations.

On Sunday, September 19, USGS senior hydrologic technician Bobby Ragland of Fuquay-Varina, N.C., hydrologist Curtis Weaver of Raleigh, N.C., and hydrologic technician David Fowler of Asheville, N.C., were taking stream measurements on the Tar River near Tarboro when they heard three men who had become separated from their vehicles and stranded by fast-rising floodwaters that had risen to more than 10 feet deep. Streamflow measurements were immediately halted, and the boat was maneuvered to the spot where the men were stranded. Weaver and Fowler quickly got out and volunteered their places in the boat to make room for the three men. Ragland passed out life jackets and shuttled the group across the murky floodwaters to their cars, then returned for his two co-workers. "The men were so thankful for our assistance," said Ragland. "If we hadn't been in the area and picked them up, they could have been in a real bad situation."

The following Tuesday, September 21, the trio was taking measurements on the Neuse River near Kinston, when they found a man clinging to a boat, trying to tow it to shore. The man had ferried his belongings from his flooded house to dry land. However, as soon as he had stepped out of the boat, the strong current carried it 20 or 30 feet from shore. The man dove in and swam after the boat, but by the time he managed to get it into shallow water he was extremely exhausted. The man was losing strength and swallowing water with each gasp for air. Ragland quickly docked the longboat near the distressed man, and Weaver jumped into the shallow water and pulled the man and his boat to safety.

"We received training in boat operations and safety and were taught to render help to the public in the event of an emergency," says Ragland. Ragland, Weaver, and Fowler downplay the drama of their rescues, stressing they felt it was their obligation to assist these people. They were glad to have been in the right place at the right time. The three say, simply, "We knew what to do, and we did it."

When not rescuing flood victims, Ragland, Weaver, and Fowler are among many USGS scientists in North Carolina and throughout the Nation who work to ensure that real-time streamflow data are always available to local water-resource management personnel, weather forecasters, and private citizens.

South Carolina

USGS scientists looked at dissolved oxygen concentrations in floodwaters from Floyd. After hurricanes Hugo, Fran, Bonnie, and Bertha, the USGS documented large drops in dissolved-oxygen content in the Waccamaw River and Atlantic Intracoastal Waterway. It took as long as 4 or 5 weeks before those waterways began recovery. This drop often occurs with the natural flushing of the extensive tidal marshes without additional nutrient loads. To better document and understand the water chemistry of this type of event, USGS scientists collected water-quality samples on a weekly or semiweekly basis after Floyd and analyzed them for nutrients, bacteria, pesticides, and metals.

North Carolina

During the heavy flooding and while much of eastern North Carolina remained under water, USGS scientists and hydrologic technicians boated over rooftops, submerged cars, bridges, and roads topped by deep water to collect data and determine the amount of environmental damage done by Hurricane Floyd's heavy rains. The USGS collected water-quality samples at more than a dozen sites in the Tar and Neuse River basins. The samples were analyzed for bacteria, nutrients, metals, pesticides, dissolved oxygen, and pH levels. Contaminated water was one of the primary worries in flooded eastern North Carolina. Wastewater-treatment plants, septic systems, and animal-waste lagoons were flooded. Scientists grappled with washed-out roads and flooded areas, which made their data collection efforts difficult and dangerous in some places.

Virginia

USGS scientists tracked bacteria sources and other contaminants in Accotink Creek in Fairfax County and Blacks Run in Rockingham County, Va., where high levels of bacteria had washed into streams from sources such as animal manure and overflowing sewage-treatment systems. The data collected were put into a model so that future storm effects and the potential for a public health risk can be more accurately predicted.

Chesapeake Bay Region

USGS scientists from Maryland and Virginia studied nutrients and other non-point-source pollutants that ran off the land into rivers feeding the Chesapeake Bay. Streams and rivers flow into the bay from as far away as New York and West Virginia. Samples were collected during and immediately after Hurricane Floyd at sites on the Pocomoke River, Nassawango Creek, Choptank River, and Chesterville Branch in Maryland and the James, Appomattox, Pamunkey, and Mattaponi Rivers, among others, in Virginia. Samples were analyzed to evaluate possible storm-related increases in nutrient and sediment loads to the Chesapeake Bay from increased storm runoff.

Maryland

USGS crews conducted studies of small watersheds in the Pocomoke River to look at the effects of animal-feeding operations and storm runoff. Samples collected were analyzed for the presence and concentration of nutrients, pesticides, antibiotics, metals, and suspended sediment.

New York

The USGS collected water samples to analyze for pesticides at several sites, including a small agricultural basin and a large river site. This sampling was part of a statewide pesticide-monitoring program. In the Hudson River basin, USGS researchers looked for organic compounds and other contaminants that would eventually flow into the New York-New Jersey Harbor. Research focused on PCB's (polychlorinated biphenyls), which usually attach to sediments, to determine whether PCB's were moved as a result of Floyd's heavy rains.

Environment and Natural Resources

USGS environment and natural resources mission activities deal with studies of natural physical, chemical, and biological processes and of the results of human actions. These studies encompass data collection, long-term assessments, ecosystem analysis, monitoring change, and forecasting the changes that may be expected in the future. Examples of accomplishments in these mission activities follow.

Invasive Species

Each year, the Nation's lands and waters come under increasing threat from invasive species introduced from foreign areas or from their native U.S. range into new habitats. These invasions result in millions of dollars in lost productivity and ecological damage. These plants, animals, and pathogens may be transported unintentionally through human travel and commerce or introduced deliberately for cultivation or other purposes. Once introduced, some of these species spread readily into wildlife habitats, where they often outcompete native species. The USGS plays a key role in developing improved information and methods for detecting, monitoring, assessing, controlling, and, where possible, eradicating invasions that threaten the U.S. protected areas and native species.

Control Barriers for Exotic Invaders—Sea Lampreys

Scientists at the USGS Great Lakes Science Center, Ann Arbor, Mich., helped design and oversaw construction of a new sea lamprey barrier on the Ocqueoc River, Mich. The barrier, which combines two proven technologies—a low-head barrier and a pulsed electrical barrier—will more consistently block sea lamprey spawning migrations in Great Lakes tributaries than either technique alone. Under normal flow conditions, the low-head barrier blocks spawning-phase sea lampreys but does not block jumping fish such as migratory rainbow trout. During spring floods, which generally last less than 3 days but are up to 8 ft deep on the Ocqueoc River, the electrical barrier activates to block all fish passage. Traps incorporated in the new combination barrier caught about 70% of the sea lamprey spawning migration in 1999, compared with an average catch of about 50% in prior years. The new design will allow the Great Lakes Fishery Commission, in cooperation with the U.S. Fish and Wildlife Service, the Canadian Department of Fisheries and Oceans, the eight Great Lakes States, and the Province of Ontario, to expand its sea lamprey barrier program to streams where flooding makes low-head barriers ineffective. Expansion of the barrier program will reduce the number of stream miles treated with chemical lampricides, the only other currently effective method of sea lamprey control.

USGS biologist holds captured nutria.

The Impact of Aquatic Mammal Invasions—Nutria

On the basis of fieldwork in Louisiana, the USGS developed a model describing the effects nutria have on losses of coastal marshes. Analysis of the model indicates that nutria populations remain healthy until their foraging has nearly or completely destroyed their marsh habitat. The research showed that damage from nutria can be assessed only prior to the winter aging of marsh vegetation and that nutria populations should be controlled in the fall.

In a separate study, USGS scientists assisted the State of Louisiana in completing a coastwide survey of nutria damage that documented roughly 100,000 acres damaged by nutria. If damaged areas are not rapidly revegetated, they will convert to open water and will be very difficult and costly to restore.

Impacts of Introduced Avian Diseases on Native Honeycreepers

The introduction to Hawaii of avian pox and avian malaria, along with *Culex* mosquitoes, which spread these diseases, has had a heavy impact on native forest bird communities. USGS scientists have taken a leading role in evaluating the effects of these diseases on highly susceptible Hawaiian honeycreepers, one of the most unusual and diverse groups of native Hawaiian birds. USGS researchers have developed new diagnostic tools for detecting the diseases, conducted surveys to determine the extent of disease and vector distribution, and tested habitat management strategies for controlling mosquito populations. Ongoing investigations focus on achieving a better understanding of disease and vector ecology and on the natural evolution of disease resistance in some honeycreeper species.

The hemlock woolly adelgid is a small piercing and sucking aphidlike insect that is native to Japan. The adeligid threatens hemlock forests in the Eastern United States and has spread to nine States since its introduction in Virginia. Changes in forest composition from hemlocks to mixed hardwoods may cause less diversity in aquatic lower invertebrates and fewer brook trout.

Fisheries and Aquatic Resources

Aquatic research activities of the USGS in FY 1999 included studies of migratory fish species, such as Pacific salmon, and those that inhabit the Great Lakes and other bodies of water. Research in FY 1999 also included studies of imperiled populations of fish and aquatic invertebrates, such as freshwater mussels and clams. In addition, USGS fishery researchers examined all phases of the life cycles of fish and their habitat requirements, as well as fish diseases.

Salmon At Risk

The magnitude of predation by sea birds on salmon is a serious concern to salmon and steelhead recovery efforts in the Columbia Basin. In FY 1999, biologists at the Oregon Cooperative Fish and Wildlife Research Unit found that up to 30% of juvenile salmon migrating to the sea from the lower Columbia River estuary were eaten by colonial birds. Most of these avian predators are Caspian terns from the largest colony existing in North America. While salmon stocks have been decreasing in the estuary, Caspian tern populations, along with those of other predatory species including double-crested cormorants, have been increasing. An Interagency Caspian Tern Working Group was created to formulate a management plan to control losses of salmon to predators. Studies supported an effort to successfully relocate about 1,400 nesting pairs of terns away from the mouth of the Columbia River. The relocated terns found alternative food sources and reduced their consumption of salmonid prey by 41%. By using restoration of nesting habitat as a means to control where Caspian terns feed and what they feed on, the research team has effectively reduced loss of fish in the Columbia River estuary without resorting to lethal control or other methods.

Wildlife Disease and Contamination

The USGS supports a unique national program dealing with all aspects of wildlife health issues. The program provides research and technical support to Federal agencies and State fish and game

agencies nationwide. Headquartered in Madison, Wisc., the USGS National Wildlife Health Center is a source and clearinghouse for critical information needed to prevent the spread of devastating diseases. In FY 1999, USGS scientists concentrated on developing vaccines, creating faster and more reliable methods of diagnosis, and identifying environmental conditions that make a particular habitat vulnerable to the outbreak of disease. Also, scientific research addressed issues of environmental concern, such as the factors responsible for apparent large-scale declines in populations of amphibians.

Investigation of Mysterious Bird Disease in Arkansas and Other Southeastern States

USGS scientists described an unusual neurologic disease that caused the deaths of at least 62 bald eagles, an unknown number of coots, and a small number of waterfowl wintering in Arkansas, North Carolina, South Carolina, and Georgia. Affected birds had very uncoordinated flight and appeared intoxicated. A suspected disease, avian vacuolar myelinopathy, had never before been documented in wildlife. After extensive diagnostic tests, USGS scientists believe that a manmade or naturally occurring toxin is the most probable cause of this disease. However, tests for a wide range of toxins, including those previously associated with vacuolar myelinopathy in other species, have been unsuccessful. Preliminary findings of a pilot sentinel study conducted in FY 1999 suggest that the toxin is site-specific and fairly quick acting. The USGS, in conjunction with multiple State and Federal agencies, is continuing collaborative field, laboratory, and research efforts. Once further research is completed, human health risks can be evaluated, and disease-control actions can be devised and implemented.

West Nile Virus Investigations and Surveillance

The USGS conducted field investigations on the epidemiology of the recently discovered, nonnative West Nile virus in New York bird populations (see p. 28). Birds are the natural hosts for this virus, which can be transmitted from infected birds to humans and other animals through bites of infected mosquitoes. USGS scientists provided diagnostic testing that helped identify the virus in 18 native bird species from New York, New Jersey, Connecticut, and Maryland. American crows appear to be highly sensitive to the virus and have experienced higher mortality than other species of birds. USGS scientists established surveillance networks with various agencies to monitor the potential expansion of the virus from the affected area to other States in the east and south. The USGS National Wildlife Health Center in Madison, Wisc., will continue surveillance and research on this new wildlife disease.

Chytrid Fungus in Toads and Amphibian Declines

Biologists from the USGS are helping determine why amphibians are disappearing. Research by these scientists and others have identified many deadly virus infections and chytrid fungi as causes of some amphibian die-offs and population declines. The USGS examined over 275 amphibians from 9 States for chytrid fungus infection. These amphibians represented 13 species of frogs, toads, and salamanders, 4 of which are declining. Chytrid fungus infections often result in death, and there is strong evidence that they are contributing to boreal toad population declines in Colorado and may be a factor in population declines of multiple amphibian species in California. Scientists don't know how this fungus is transmitted from one area to another, nor why the fungus is affecting amphibian populations around the world; however, work will continue to address these questions.

Screening Method to Predict Selenium Contamination

A joint USGS and Fish and Wildlife Service study in the Western United States introduced a new screening method, based on geology and climatology, that can predict where lands in irrigated areas are susceptible to selenium contamination. Six major areas, covering 160,000 square miles in the Western United States. have been found susceptible to contamination and the resulting deformities in bird populations. USGS Circular 1180, “Areas Susceptible to Irrigation-Induced Selenium Contamination of Water and Biota in the Western United States,” was released during the summer of 1999.

Fire Ecology

Department of the Interior land management agencies need to better understand how fire affects the landscape of the Great Plains and the Western United States. In the past few decades, high-quality, well-focused scientific research has advanced our understanding of the essential role of fire in natural processes. USGS research on fire management focused on (1) how fire affects Federal lands containing chaparral and desert scrub habitats in California, Nevada, and Utah and (2) how fire can improve rangeland habitat on lands in the Great Basin areas of Idaho, Oregon, and Washington managed by the Bureau of Land Management.

Fire research is examining the effects of controlled burning on wet pine savanna habitat that is being restored for the endangered Mississippi sandhill crane, carnivorous plants, and other species at risk at the Mississippi Sandhill Crane National Wildlife Refuge in Jackson County, Miss.

Alien Annual Grasses, Fire, and Impact on Desert Tortoise Habitat in the Western Mojave Desert

USGS scientists studied the impact of invasive annual grasses and fire ecology on habitat in the western Mojave Desert identified as critical to the threatened desert tortoise. Findings will assist Federal agencies in reducing the threat of invasive annual grasses on the public lands and therefore will result in fewer acres lost or damaged by wildfires. Data bases created during the study are available to land managers and should lead to creative approaches in restoration and recovery of native annual plants and native perennial grasses. Moreover, the results can be incorporated into fire management programs. Ultimately, the research results will help reduce the number of fires, support plans for restoring habitat and recovering threatened and endangered species, and realize substantial economic benefits to the Government and the public.

Wildlife Resources

USGS biologists conduct extensive research on the distribution, abundance, and condition of wildlife populations and communities. In FY 1999, wildlife programs supported research on large mammals inhabiting Federal lands where potential conflicts between these animals and humans could occur. Research was conducted on the population status, habitat requirements, and pressures on threatened and endangered species.

Bald Eagle Population of Acadia National Park, Maine

Because of very low reproductive success resulting from exposure to contaminants, the bald eagle became an endangered species. Although the species is no longer listed as endangered, bald eagles in Maine continue to exhibit a lower birthrate than that of other populations across North America. USGS scientists conducted studies to determine the cause of declining populations. Data were gathered on specific segments of Maine's eagle population, as well as the source of contaminants. Biologists detected a correlation with contaminant levels by examining birds that nest within and adjacent to Acadia National Park plus the bird species that constitute the eagles' prey along the midcoast of Maine. In addition, other factors, such as weather or human disturbance, that may influence the population were evaluated and data were collected. These data will be used to assist in the future recovery and management of the bald eagle in Maine.

Brown Bear Population on Kodiak Island, Alaska

The brown bear population of Kodiak Island, which is predominantly a National Wildlife Refuge and National Forest, is significant as a wildlife resource and as a management concern because of increasing public use of the island. Human encroachment into brown bear habitat may have a direct impact that results in population depletion because of hunting pressures or a more indirect impact that would cause the bears to be displaced from key habitat sites. The USGS undertook a study to determine the status of bear populations in representative habitats, investigate ecological factors that influence the bear population, and evaluate interactions between bears and humans. Specific goals focused on seasonal movements and distribution, density estimation, population methodology, winter den ecology, survival and productivity of adult females, and immediate and long-term response of bears to human activity.

The resulting data on seasonal habitat are now used by refuge managers in the preparation of comprehensive conservation and land protection plans and in the development of public use regulations. Data on interactions between bears and people provide guidance for education programs and commercial operators. Density and population survey information provides the foundation for assessing population change and the results of hunting.

Adult brown bear on Don Salmon Creek, Kodiak National Wildlife Refuge, Kodiak Island, Alaska. Photograph by D. Menke, U.S. Fish and Wildlife Service.

Florida Panther Population in Big Cypress National Preserve

Big Cypress National Preserve in Florida comprises approximately one-third of the land where the endangered Florida panther (*Felis concolor coryi*) lives. In the National Preserve, deer and hog hunting are allowed. The National Park Service requested that USGS wildlife biologists evaluate the potential effects of this human activity on the behavior of panthers on the newly acquired lands in the northeast corner of the preserve. From 1995 to 1998, USGS scientists examined these potential impacts; they produced a final report in FY 1999. The study showed that morning activity rates, movement rates, predation success, home range shifts, home range size, and habitat selection were not affected by hunting. In addition, it appears the panthers learned to use adjacent lands or in-holdings as refuges during the hunting season.

Information Management and Delivery

The USGS applies state-of-the-art information science to research to ensure that knowledge gained through our scientific research investment is maximized through worldwide access, dissemination, and partnerships.

In addition to providing many reports on the Internet, the USGS is now offering many reports on CD-ROM (compact disc, read-only memory), instead of the traditional paper format. CD-ROM publication has resulted in substantial cost savings. For one annual report that was released during the summer of 1999, this practice cut publication costs from $16.35 per copy to $1.13 per copy and allowed the USGS to produce 2,000 copies, compared with only 425 copies of the previous year's report. This practice makes it possible to distribute USGS scientific data and results to a much broader audience than was previously possible and saves valuable resources so that more funding is available to support research and monitoring activities.

Student Becomes USGS Resource Professional

The USGS and cooperating States and universities jointly operate the Cooperative Research Units Program. Although the program and its cooperators graduate more than 100 students annually, one recent success stands out. Working with the U.S. Fish and Wildlife Service, a research team led by Dr. Wiley Kitchens, a USGS scientist at the Florida Cooperative Fish and Wildlife Research Unit, developed models to predict hydrologic and vegetation changes that might result from different water management regimes at Okefenokee National Wildlife Refuge. Cyndy Loftin, a graduate student recruited by Dr. Kitchens for this project, spent years slogging through the swamp collecting hydrologic and vegetative data, then returning to the University of Florida to input data and build computerized maps of plant distributions and hydrologic conditions. From this, the research team was able to identify plant sensitivities to water conditions and provide the science for decisions related to the refuge's water management structures and practices. The long hours in the marsh and dedication at the computer paid off for Ms. Loftin in the form of a Ph.D. awarded to her for this work. The work had special significance to the Fish and Wildlife Service, who awarded Dr. Loftin the USFWS 1999 Region 4 National Wetlands Conservation Award to the Private Sector in appreciation of her efforts. The program has trained many of today's natural resource professionals and occasionally is able to hire one of its highly prized graduates for its own program. The program was lucky to recruit Dr. Loftin to one of its own research positions as the Assistant Unit Leader-Wildlife at the Maine Cooperative Fish and Wildlife Research Unit. Here the circle is completed as Dr. Loftin is now actively involved in research, while mentoring students at the University of Maine.

GeoData Forum

On June 7–9, 1999, in Washington, D.C., participants in the 1999 GeoData Forum on Making Livable Communities a Reality gathered to debate key public policy issues related to geodata and geoprocessing and to present recommendations for decisionmakers. More than 500 elected officials, community leaders, industry leaders, and technologists attended. Sponsored by the Federal Geographic Data Committee in collaboration with academic and public and private sector organizations, this forum resulted in initiating activities to stimulate the future growth of the National Spatial Data Infrastructure. A Congressional workshop/demonstration and a town hall meeting called by the Hon. Paul Kanjorski (D–PA 11th) were held to focus congressional attention on the value and use of geographic information in communities.

Travel-Saving "Cyber Seminar"

On September 30, 1999, without leaving their offices, 160 scientists around the country viewed a live Internet demonstration of the USGS's new National Water-Quality Assessment (NAWQA) Data Warehouse. The "cyber seminar" speeded up technology transfer by allowing participants from around the country to simultaneously view the demonstration and ask questions. By using software called Oracle Discoverer, the seminar

Notes written during the 1999 GeoData Forum on Making Livable Communities a Reality.

showed viewers how the new NAWQA Data Warehouse links chemical concentrations, site and well information, streamflow data, and biological data.

USGS scientist checking the Two Bridge gaging station and water-quality monitor on the Passaic River.

Report on the Nation's Biological Resources

In FY 1999, the USGS released a two-volume report entitled "Status and Trends of the Nation's Biological Resources." This report is the first large-scale assessment of the health and status and trends of our plants, animals, and ecosystems. Current information on the status and trends of biological resources is synthesized, with a historical perspective of ecosystems across the country, to assess how the Nation's resources are changing. The report also covers the major factors that affect biological resources nationwide. The report contains contributions from nearly 200 experts from Federal Government, academic, and non-governmental communities and a section on marine resources written by the National Marine Fisheries Service. Ordering instructions are at http://biology.usgs.gov/pr/s+torder.html.

Online National Map of Daily Streamflow

As a further enhancement to its online availability of real-time streamflow information, the USGS announced in June 1999 that this crucial information, which is used by emergency officials, water managers, and recreational fishers and boaters, is now available for the first time as a daily national map that shows at a glance where streamflow is up or down across the Nation. The map, which is updated at intervals throughout the day, was especially useful during the summer for checking on drought conditions in the Eastern United States, as well as for checking on water-resource conditions around the country. In addition to the national map, users of the USGS web site can also access tables of regional streamflow data or view an animation feature that shows five recent days of streamflow in sequence. The daily streamflow conditions map can be viewed on the USGS web site at http://water.usgs.gov/public/dwc/national_map.html.

Feedback from User of USGS Web Site about Streamflow

The operator of a fish farm adjacent to the Brunner Island Power Plant on the Susquehanna River, Pa., said, "Thanks for putting the water stages on the web! We call the 800 number regularly during high-water events to determine the approximate time we will need to run our dewatering pumps. Having up-to-the-minute data available on the web has allowed me to track the river flows, forecasts, warnings, from my computer at home as well as work. Even though the 'flood anxiety' is always present during river rises, it helps a lot to have the information available so that we can plan our strategies accordingly. Thanks to all of you at USGS for maintaining the facilities that we who are impacted by the river rely upon for survival!"

Expansion of the National Biological Information Infrastructure

In FY 1999, the USGS worked with partner agencies and organizations to provide electronic access to more biological data and information through the National Biological Information Infrastructure (NBII). The USGS and its partners significantly expanded the contents of the NBII Clearinghouse, which is a free online "card catalog" that contains complete, accurate descriptions of many hundreds of biological data bases and information products. Resource managers, researchers, students, and the interested public regularly consulted the NBII to find data on a given biological resource subject, a certain species, or a certain geographic location. The USGS also assisted several NBII partners in establishing eight new distributed NBII Clearinghouse "nodes," thus adding to the breadth and diversity of biological information available

through the NBII Gateway. To make it easier for NBII partners and customers to use the clearinghouse, the USGS completed development of a new standard format for effectively describing biological data sets. The USGS also provided training on how to use this new Federal standard to more than 200 people, including resource managers and scientists from the Departments of the Interior, Commerce, and Defense; State fish and game agencies; and many others. As a result of these efforts to improve public access to information on biological resources, the NBII received a 1999 Government Technology Leadership Award and was named one of the year's Best Feds on the Web.

Geospatial Technology Programs

Four geospatial technology programs are described below:

- In FY 1999 through the Geographic Analysis Program (GAP), land cover, land use, and verte- brate species distribution data were collected from 12 States; the data are being integrated regionally. To address requirements under the National Wildlife Refuge System Improvement Act, the USGS is working with the U.S. Fish and Wildlife Service to acquire GAP data for National Wildlife Refuges. Furthermore, GAP data were used to identify conservation options along the Lewis and Clark Trail.
- The USGS and National Park Service Vegetation Mapping Program completed mapping in Wind Cave, Jewel Cave, Mount Rushmore, and Fort Laramie National Monuments (see http://biology.usgs.gov/npsveg/products/parkname.html).
- The Land Use History of North America Program completed a pilot phase by publishing a report on 10 diverse projects that provide a perspective on the relationship of land use to land cover change (see http://biology.usgs.gov/luhna/contents.html).
- The National Technical Means Program provided data for fire fuels modeling efforts, evaluation of invasive plants, and streambed/river habitat studies.

The National Geologic Map Database

The National Geologic Map Database was developed in response to the National Geologic Mapping Act of 1992 and 1997. In 1996 to 1997, the USGS and the Association of American State Geologists defined the general concepts for the database, and work began on its construction. This work focused on the development of standards and guidelines to support the management and use of digital map data (see http://ncgmp.usgs.gov/ngmdbproject), and to build an online catalog of geoscience maps (see http://ngmdb.usgs.gov). In 1998, many of these standards and guidelines became available in draft form, including a geologic map data model. Also in 1998, the number of records in the map catalog increased, from about 3% to about 53% of the USGS collection. An expanded effort to include all maps produced by State geological surveys in the database is supported by the Association of American State Geologists. Development of new standards and procedures in FY 1999 allowed access to digital maps on line. Online access is of increasing importance to private-sector firms and to Government agencies; as a result, customized geographic information systems (GIS) can be used to support land management and economic investment decisions.

Atmospheric Deposition Monitoring Networks

For the first time, all of the major global atmospheric deposition monitoring networks have been united in a USGS program designed to measure the quality of laboratory data. On June 21, 1999, the USGS began measuring the quality of analytical data from wet deposition chemistry laboratories in Europe and Southeast Asia. These laboratories join those representing the major North American deposition monitoring networks that are already in the program. Now it will be possible to directly compare data from all of the deposition monitoring networks in the world. As a result, the ability to compare deposition levels occurring worldwide will be improved. In addition to monitoring trends in acid rain, researchers are combining nitrogen deposition data from these networks as input to global circulation models to estimate the role that nitrogen deposition plays in

affecting the global cycling of carbon dioxide.

Digital Elevation Models

After more than two decades of work, complete digital elevation model (DEM) coverage of the United States has been achieved. Through the cooperative efforts of the USGS and State and Federal partners, over 58,000 individual files of regularly spaced elevation points are now available to the public. At 30 meters (98 feet) or finer ground spacing, this data set represents over 10 billion elevation points covering the Nation. Since the web site of free, downloadable DEM's (http://edcwww.cr.usgs.gov/doc/edchome/ndcdb/ndcdb.html) premiered in April 1998, more than 4 million files have been downloaded, making these the most popular geospatial data that the USGS provides on the Internet. Files can also be ordered on 8-mm (millimeter) tape or CD (compact disc) media at http://edcwww.cr.usgs.gov/webglis/.

DEM's can be combined with other geospatial data, such as imagery or vectors, to produce three-dimensional data. This versatile tool supports many scientific and commercial applications, including flood modeling, perspective views, and fly-through animations. DEM's covering the State of Texas are now available in a seamless data set that is now being used by the USGS, Texas State agencies, and the University of Texas to predict and mitigate flood risks for the Guadalupe River basin and other threatened areas. The Texas data set is being used with National Weather Service NEXRAD Doppler radar to help predict storm effects on river levels. Pennsylvania is cooperating with the USGS to construct a similar data set at 10-meter (33-foot) resolution. A seamless national elevation data base constructed from DEM's, complete with user-definable "clip-and-ship" options, is anticipated for public access in the near future.

New Map of Active Mines Across the United States

The USGS published a colorful wall map showing more than 4,000 active mines and mineral processing plants in the United States for 74 types of nonfuel minerals, coal, and uranium. The map (USGS Miscellaneous Investigations Series Map I–2654) was produced in cooperation with the National Mining Association, the Mine Safety and Health Administration, and the Energy Information Administration. The poster information is plotted on a rock-type map of the United States at a scale of 1:6,000,000, and the relationship between rock type and mine location is explained. Smaller scale maps, also on the poster, show the location of related mineral commodity groups, such as precious metals mines. Map images and other data on the poster have been made available on the Internet at http://minerals/er.usgs.gov/minerals/pubs/mapdata/.

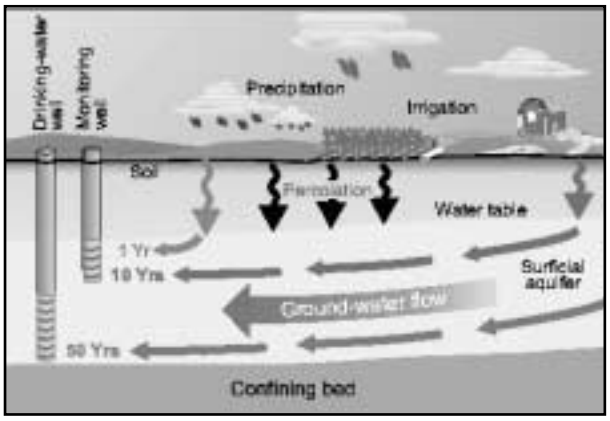
Clean Coal—A Finite Resource

The first of a series of publications that report the results of the National Coal Resource Assessment was released (see http://greenwood.cr.usgs.gov/energy/coal/PP1625A/pp1625A.html). This assessment was conducted in partnership with the U.S. Bureau of Land Management, the U.S. Office of Surface Mining, the Montana Bureau of Mines and Geology, the North Dakota Geological Survey, the Wyoming State Geological Survey, the Departments of Environmental Quality of Montana and Wyoming, and dozens of coal mining companies in Wyoming, Montana, and North Dakota.

The USGS is assessing coal resources in five regions within the conterminous United States to determine the quantity, quality, and mineability of coal likely to be used within the next 20 to 30 years. This assessment is critical because the United States is consuming increasing amounts of coal to generate electrical power. Previous coal resource assessments considered only the total amount of coal in the ground in the United States. Those estimates tended to be high and not as useful because they included coal deposits in beds too thin or too deep underground to be mined efficiently, deposits that were too close to urban areas to be mined practically, or coal that was not of sufficient quality to serve as a fuel resource into the next century.

Improvements to Ground-Water Model

Ground water is one of the Nation's most important natural resources. Aquifers supply drinking water to approximately 130 million U.S. residents, and ground water is used in all 50 States. Ground water plays a critical role in sustaining streamflow and is vital to the health of lakes and wetlands.



Ground-water monitoring that considers the use of wells completed near the water table could provide resource managers better opportunities to effect change in land-use practices before contamination spreads wider and deeper into an aquifer. Diagram from USGS Circular 1169.

In June 1999, the USGS announced the release of a new graphical user interface for MODFLOW, a computer program used for simulating common features in ground-water systems. The program was constructed in the early 1980's and has continually evolved since then with development of many new packages and related programs for ground-water studies. Currently, MODFLOW is the most widely used program in the world for simulating ground-water flow. The new model enhancements include support for a number of modeling applications, context-sensitive help, and an improved design that facilitates program customization. More information is available through USGS Open-File Report 99–184 (http://water.usgs.gov/nrp/gwsoftware/modflow-gui/mfgui_30.pdf) or on the USGS web site http://water.usgs.gov/nrp/gwsoftware/.

Old West Comes Alive Through New USGS Map

"Historic Trail Map of the Denver 1 by 2 Degree Quadrangle, Central Colorado," by Glenn R. Scott, retired USGS geologist, features a smorgasbord of historical information, including the locations of Indian, early immigrant, and cattle trails, as well as stage routes, stage stops, toll roads, toll gates, existing and abandoned railroads, ghost towns, military camps, mountain passes, ranches, quarries, mines, archeological sites, and vertebrate fossil sites. The quadrangle includes the Denver metropolitan area and extends to include Brighton on the north, the Great Plains on the east, the Air Force Academy on the south, and Fairplay on the west.

The publication is available through the USGS Earth Science Information Center as map I–2639 by contacting 303–203–4700 or 1–888–ASK–USGS. The map can also be accessed through the Internet at http://greenwood.cr.usgs.gov/maps/i-maps.html.

The following 13-page Independent Auditors Report was scanned from a paper original.

United States Department of the Interior

OFFICE OF INSPECTOR GENERAL
Washington, D.C. 20240

SEP 28 2000

INDEPENDENT AUDITORS REPORT

Memorandum

To: Director, U.S. Geological Survey

Subject: Independent Auditors Report on U.S. Geological Survey Financial Statements for Fiscal Years 1999 and 1998 (No. 00-I-708)

SUMMARY

In our audit of the U.S. Geological Survey's (USGS) financial statements for fiscal years 1999 and 1998, we found the following:

- The principal financial statements were fairly presented in all material respects. USGS's principal financial statements consist of the Consolidated Balance Sheet as of September 30, 1999 and September 30, 1998; the Consolidated Statement of Net Cost and Consolidated Statement of Changes in Net Position for the fiscal years ended September 30, 1999 and September 30, 1998, and the Combined Statement of Budgetary Resources and Combined Statement of Financing for the fiscal year ended September 30, 1999.

- Our tests of internal controls identified material weaknesses in the areas of accounts receivable/advances, unliquidated obligations, and accrued liabilities.

- Our tests of compliance with laws and regulations identified noncompliance with Statement of Federal Financial Accounting Standards No. 4, "Managerial Cost Accounting Standards."

Our conclusions are detailed in the sections that follow.

OPINION ON PRINCIPAL FINANCIAL STATEMENTS

In accordance with the Chief Financial Officers Act of 1990, we audited USGS's principal financial statements for the fiscal years ended September 30, 1999 and September 30, 1998 as contained in USGS's accompanying Annual Financial Report for fiscal year 1999. These financial statements are the responsibility of USGS, and our responsibility is to express an opinion, based on our audit, on these principal financial statements.

Our audit was conducted in accordance with the "Government Auditing Standards," issued by the Comptroller General of the United States, and with Office of Management and Budget Bulletin 98-08, "Audit Requirements for Federal Financial Statements," as amended. These audit standards require that we plan and perform the audit to obtain reasonable assurance as to whether the accompanying principal financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures contained in the principal financial statements and the accompanying notes. An audit also includes assessing the accounting principles used and the significant estimates made by management. We believe that our audit work provides a reasonable basis for our opinion.

In our opinion, the principal financial statements (pages 11-15) present fairly, in all material respects, the financial position of USGS, its consolidated net cost, and its changes in net position as of and for the years ended September 30, 1999 and September 30, 1998 and its combined statement of budgetary resources and statement of financing for the fiscal year ended September 30, 1999 in conformance with generally accepted accounting principles.

As discussed in Note 1G to USGS's financial statements, in fiscal year 1999 the capitalization threshold for personal property was increased from $5,000 to $15,000, resulting in a decrease to equipment and related accumulated depreciation. In addition, as discussed in Note 10 and in the Report on Internal Controls section, fiscal year 1998 liabilities were increased and unexpended appropriations were decreased by about $69 million for accrued liabilities that had not been recognized.

Our audit was conducted for the purpose of forming an opinion on the consolidated and combined principal financial statements taken as a whole. The accompanying consolidating and combining information is presented for purposes of additional analysis of the consolidated and combined principal financial statements. The consolidating and combining financial statements for fiscal year 1999 (pages 16-18) were subject to auditing procedures applied in the audit of the consolidated and combined principal financial statements and, in our opinion, are fairly stated in all material respects in relation to the consolidated and combined principal financial statements taken as a whole.

In addition, the deferred maintenance and supplementary stewardship information that follows the financial statements (pages 27-32) is not a required part of the principal financial statements but is supplementary information required by the Federal Accounting Standards Advisory Board. We have applied certain limited procedures, including discussions with management, on the methods of measurement and presentation of the supplementary information. However, we did not audit the information and therefore do not express an opinion on this supplementary information.

REPORT ON INTERNAL CONTROLS

Our audit was conducted in accordance with the "Government Auditing Standards," issued by the Comptroller General of the United States, and with Bulletin 98-08.

USGS management is responsible for establishing and maintaining an internal control structure which provides reasonable assurance that the following objectives are met:

- Transactions are properly recorded, processed, and summarized to permit the preparation of the principal financial statements and the required supplementary stewardship information in accordance with Federal accounting standards.

- Assets are safeguarded against loss from unauthorized acquisition, use, or disposition.

- Transactions are executed in accordance with (1) laws governing the use of budget authority and with other laws and regulations that could have a direct and material effect on the principal financial statements and (2) any other laws, regulations, and Governmentwide policies identified by the Office of Management and Budget.

- Transactions and other data that support reported performance measures are properly recorded, processed, and summarized to permit the preparation of performance information in accordance with criteria stated by management.

Because of inherent limitations in any internal control structure, errors or fraud may occur and not be detected. Also, projections of any evaluation of the internal controls over financial reporting to future periods are subject to the risk that the internal controls may become inadequate because of changes in conditions or that the degree of compliance with the policies or procedures may deteriorate.

In planning and perforrning our audit, we considered USGS's internal controls over financial reporting by obtaining an understanding of USGS's internal controls, determined whether these internal controls had been placed in operation, assessed control risks, and performed tests of controls in order to determine our auditing procedures for the purpose of expressing an opinion on the principal financial statements and the supplemental statements of net cost and changes in net position and not to provide assurance on the internal controls over financial reporting. Consequently, we do not express an opinion on internal controls.

Our consideration of the internal controls over financial reporting would not necessarily disclose all matters in the internal control structure over financial reporting that might be reportable conditions. Under standards established by the American Institute of Certified Public Accountants and by Bulletin 98-08, reportable conditions are matters coming to our attention relating to significant deficiencies in the design or operation of the internal controls that, in our judgment, could adversely affect USGS's ability to record, process, summarize, and report financial data consistent with the assertions made by management in the principal financial statements. Material weaknesses are reportable conditions in which the design or operation of one or more of the internal control components does not reduce to a relatively low level the risk that misstatements in amounts that would be material in relation to the financial statements being audited may occur and not be detected within a timely period by

employees in the normal course of performing their assigned functions. We noted matters concerning internal controls and their operation that we consider to be material weaknesses.

Material Weaknesses

We identified material weaknesses as discussed in the paragraphs that follow.

A. USGS Needs Improved Controls Over its Advances From Others and Unbilled Accounts Receivable

USGS did not establish adequate internal control procedures to ensure that its advances from others and unbilled accounts receivable were fairly stated in the subsidiary ledgers. USGS made adjustments after year-end to correct the account balances. The adjustments were made for the following reasons:

- Advances from others and unbilled accounts receivable were increased by over $20 million because negative unbilled accounts receivable should have been recorded as advances. These negative unbilled receivables occurred because (1) the system does not allow intrabureau collections to be recorded as advances and (2) the system does not reestablish the advance when costs allocated to a customer are reduced.

- Advances from others and unbilled accounts receivable were decreased by about $4.9 million because the system did not always liquidate advances based on earnings. This resulted in both advances from others and unbilled accounts receivable being overstated.

- Advances from others and unbilled accounts receivable were decreased by about $6.4 million because collections were not matched to the correct budget fiscal year of the agreement.

In addition, in reviewing the adjustments we noted that adjustments for working capital fund accounts receivable unbilled and advances from others were made twice: (1) as a journal voucher posted to the pre-closing trial balance and (2) as an adjustment in Hyperion after closing. When we brought these matters to management's attention, they made an adjustment of about $8.9 million.

We have reported controls over advances from others and unbilled accounts receivable as a reportable condition in previous years' audit reports; however, because of the continuing problems in this area, we have reclassified it as a material weakness. We are not making recommendations related to advances from others and unbilled accounts receivable because recommendations have been made on this issue in prior years' reports.

USGS Response: In the August 11, 2000, response (Appendix 1) to the draft report, the Acting Chief, Office of Program Support, indicated that the office would address the first two reported conditions by providing us with documentation of the "work around" procedures for the Project Cost Accounting System deficiency.

Office of Inspector General Reply: Based on the response, we anticipate that the work-around procedures will be effective and that this finding will not be reported in fiscal year 2000. However, all of the procedures were not officially in effect for fiscal year 1999. The documentation of the procedures in fiscal year 1999 was limited to a memorandum from the Chief of Accounts Receivable Branch to an office accountant outlining the procedures. The procedure to provide Crystal reports to the divisions for them to review for unnatural unbilled accounts receivable/advance balances was not discussed in this memorandum. In addition, the $20 million adjustment was made more than 2 months after the end of the fiscal year. Furthermore, the adjustment made to correct the third condition was made based on information received from our audit. As noted in the finding and not addressed in the response, the adjustments to correct the working capital accounts receivable and advance accounts were made twice. Based on these facts, it is our opinion that this finding meets the definition of a material weakness.

As you requested, we changed the wording of the third condition to reflect your determination of the cause of this condition.

B. USGS Needs Improved Controls Over its Accrued Liabilities and Expenses

USGS did not establish adequate internal controls to ensure that liabilities and expenses were properly accrued at year-end for fiscal years 1998 and 1999. In our testing of 74 expenses for fiscal year 1999, we identified 16 items that should have been expensed in prior years. In our testing of 127 undelivered orders as of September 30, 1999, we identified 36 items where the amount of the undelivered orders should have been reduced and a liability should have been established because the goods or services had been received. This occurred because USGS had not implemented adequate policies and procedures to recognize liabilities for which an obligation had been recognized for goods or services received but for which an invoice had not been received. As a result, liabilities were understated and undelivered orders were overstated. When we informed management of this condition, they made an adjustment of about $69 million to accrued liabilities, undelivered orders, and related accounts for both fiscal years 1999 and 1998 based on a statistical sample of undelivered orders.

In addition, our testing of accrued expenses at year-end identified 3 of 26 items that were not valid expenses. When we brought this matter to management's attention, they made an adjustment of about $2 million.

Recommendation

We recommend that the Director, USGS, establish policies and procedures for recognizing accruals.

USGS Response: In the August 11, 2000 response (Appendix 1) to the draft report, the Acting Chief, Office of Program Support, agreed with this recommendation.

C. USGS Needs Improved Controls Over its Unliquidated Obligations/Undelivered Orders

USGS did not establish adequate internal control procedures to ensure that the undelivered orders subsidiary ledger was fairly stated. Our testing of 127 undelivered orders as of September 30, 1999 identified 7 items that were invalid orders and that therefore should have been deobligated. When we informed management of this condition, they made an adjustment of about $8.9 million to undelivered orders based on a statistical sample of undelivered orders.

Recommendation

We recommend that the Director, USGS, implement procedures to assess the validity of undelivered orders and deobligate the order when needed.

USGS Response: In the August 11, 2000 response (Appendix 1) to the draft report, the Acting Chief, Office of Program Support, agreed with the recommendation.

STEWARDSHIP AND PERFORMANCE MEASURES

We considered USGS's internal controls over the required supplementary stewardship information (pages 27-31) by obtaining an understanding of USGS's internal controls relating to the preparation of the required supplementary stewardship information to determine whether these internal controls had been placed in operation and performed tests of these controls as required by Bulletin 98-08. However, providing assurance on these internal controls was not an objective of our audit, and accordingly, we do not provide assurance on such controls.

With respect to the internal controls related to the performance measures reported in USGS's Performance Measurement section (pages 37-40), we obtained an understanding of the design of significant internal controls related to the existence and completeness assertions as required by Bulletin 98-08. Our procedures were not designed to provide assurance on internal controls over reported performance measures, and accordingly, we do not provide an opinion on such controls.

REPORT ON COMPLIANCE WITH LAWS AND REGULATIONS

Our audit was conducted in accordance with the "Government Auditing Standards," issued by the Comptroller General of the United States, and with Office of Management and Budget Bulletin 98-08.

USGS management is responsible for complying with laws and regulations applicable to that agency. As part of obtaining reasonable assurance as to whether USGS's principal financial statements are free of material misstatement, we performed tests of USGS's compliance with certain provisions of laws and regulations, noncompliance with which could have a direct

and material effect on the determination of financial statements amounts and certain other laws and regulations specified in Bulletin 98-08, including the requirements referred to in the Federal Financial Management Improvement Act of 1996. However, providing an opinion on compliance with certain provisions of laws and regulations was not an objective of our audit, and accordingly, we do not express such an opinion.

The results of our tests of compliance with laws and regulations discussed in the preceding paragraph exclusive of the Federal Financial Management Improvement Act disclosed one instance of noncompliance that is required to be reported under the "Government Auditing Standards" or Bulletin 98-08.

Under the Federal Financial Management Improvement Act, we are required to report whether USGS's financial management systems were in substantial compliance with requirements for Federal financial management systems, Federal accounting standards, and the U.S. Government Standard General Ledger at the transaction level. To meet these requirements, we performed tests of compliance using the implementation guidance for the Federal Financial Management Improvement Act included in Appendix D of Bulletin 98-08. The results of our tests disclosed one instance in which USGS's financial management system was not in substantial compliance with these three requirements, as discussed in the paragraphs that follow.

D. Noncompliance With Managerial Cost Accounting Standards

Based on our tests of compliance with laws and regulations, we found that USGS was not in full compliance with managerial cost accounting standards because it did not identify the cost of outputs and the unit cost of outputs. Statement of Federal Financial Accounting Standards No. 4, "Managerial Cost Accounting Concepts and Standards," requires agencies to establish responsibility segments and to measure and report the full costs of resources consumed by the segment in producing each segment's outputs. According to Standard No. 4, "Outputs produced by responsibility segments should be accumulated and, if practicable, measured in units [and] the full costs . . . should be assigned to outputs." However, USGS has not identified the costs of all outputs and the costs per unit. For example, USGS reports as a performance measure the number of "decision-support systems or predictive models developed or improved and delivered to customers" but does not provide information on the costs of the decision-support systems.

Recommendation

We recommend that the Director, USGS, devise and implement a system that would measure and report the full cost of resources consumed by the segment in producing each segment's outputs.

USGS Response: In its August 11, 2000 response (Appendix 1) to the draft report, USGS did not concur with the recommendation. USGS stated that it "aligns its cost and Government Performance and Results Act (GPRA) information to comply with the

managerial cost accounting standard." USGS further stated that its fiscal year 1999 responsibility segments "were identical to their Performance Act program performance goals" and that USGS "reported the full cost of these responsibility segments as required by the standard." USGS further said, "This reporting is supported by the Department of the Interior and fully meets [the Department's] cost accounting guidance."

Office of Inspector General Reply: We agree that USGS took actions to align cost information with Government Performance and Results Act information and used this strategy as a means to comply with Standard No. 4. We do not agree, however, that USGS has fully complied with the standard. According to the standard, "The purpose of cost accounting by a responsibility segment is to measure the costs of its outputs." Although USGS has assigned full costs to responsibility segments and aligned the responsibility segments with Government Performance and Results Act program activities, it has not identified all the outputs of the responsibility segments or the costs of those outputs.

The Department of the Interior has developed guidance for implementing managerial cost accounting, which we believe is a positive step in the direction of compliance with Statement of Federal Financial Accounting Standards No. 4. We believe that if USGS complies with the actions proposed by the Department, those actions will be sufficient for USGS to be in compliance with the managerial cost accounting requirements for fiscal year 2000.

CONSISTENCY OF OTHER INFORMATION

We reviewed the financial information presented in USGS's Strategic Plan and Budgetary Integrity section (pages 1-6) and supplemental information (pages 27-63) to determine whether the information was consistent with the principal financial statements. Based on our review, we determined that the information was consistent with the principal financial statements.

PRIOR AUDIT COVERAGE

Other than the unimplemented recommendations discussed in the Report on Internal Controls section of this report, our review of prior Office of Inspector General and General Accounting Office audit reports disclosed that there were no significant unresolved or unimplemented recommendations which affected USGS's principal financial statements.

OBJECTIVE, SCOPE, AND METHODOLOGY

USGS management is responsible for the following:

- Preparing the principal financial statements and the required supplemental information referred to in the Consistency of Other Information section of this report in conformity with generally accepted accounting principles and for preparing the other information contained in USGS's financial statements for fiscal year 1999.

- Establishing and maintaining an internal control structure over financial reporting. In fulfilling this responsibility, estimates and judgments are required to assess the expected benefits and related costs of internal control structure policies and procedures.

- Complying with applicable laws and regulations.

We are responsible for the following:

- Expressing an opinion on USGS's principal financial statements.

- Obtaining an understanding regarding the effectiveness of the internal controls based upon the internal control objectives contained in Bulletin 98-08, which require that transactions be properly recorded, processed, and summarized to permit the preparation of the principal financial statements and the required supplemental information in accordance with Federal accounting standards; that assets be safeguarded against loss from unauthorized acquisition, use, or disposal; and that transactions and other data that support reported performance measures be properly recorded, processed, and summarized to permit the preparation of performance information in accordance with criteria stated by management.

- Testing USGS's compliance with selected provisions of laws and regulations that could materially affect the principal financial statements or the required supplementary information.

To fulfill these responsibilities, we took the following actions:

- Examined, on a test basis, evidence supporting the amounts disclosed in the principal financial statements.

- Assessed the accounting principles used and the significant estimates made by management.

- Evaluated the overall presentation of the financial statements.

- Obtained an understanding of the internal control structure related to safeguarding assets; compliance with laws and regulations, including the execution of transactions in accordance with budget authority; financial reporting; and certain performance measure information reported in the Program Highlights.

- Tested relevant internal controls over the safeguarding of assets; compliance with laws and regulations, including the execution of transactions in accordance with budget authority; and financial reporting.

- Reviewed the internal controls relevant to the existence and completeness assertions for systems producing the performance measures reported in the Program Highlights.

- Tested compliance with selected provisions of laws and regulations.

We did not evaluate all of the internal controls relevant to the operating objectives as broadly defined by the Federal Managers' Financial Integrity Act, such as those controls relevant to preparing statistical reports and ensuring efficient operations. We limited our internal control testing to those controls needed to achieve the objectives outlined in our report on internal controls.

We identified other issues that, in our judgment, were not required to be included in this audit report but that should be communicated to management. These issues will be communicated separately in a management letter.

Based on USGS's response, we consider Recommendations B.1 and D.1 resolved and implemented and Recommendations A.1 and C.1 resolved but not implemented. Accordingly, the unimplemented recommendations will be referred to the Assistant Secretary for Policy, Management and Budget for tracking of implementation.

Since the recommendations are considered resolved, no further response to the Office of Inspector General is required (see Appendix 2).

This report is intended for the information of management of Reclamation and the Office of Management and Budget and for the Congress. However, this report is a matter of public record, and its distribution is not limited.

Roger La Rouche
Acting Assistant Inspector General
for Audits

In Reply Refer To:
Mail Stop 270

MEMORANDUM

AUG 11 2000

To: Assistant Inspector General for Audits

/S/ TIMOTHY E. CALKINS

From: Carol F. Aten
Acting Chief, Office of Program Support

Subject: Comments on the Draft Report on U.S. Geological Survey (USGS) Financial Statements for Fiscal Year (FY) 1999

Thank you for the opportunity to comment on your draft report. Our comments are keyed to the recommendations in the report.

A. Accounts Receivable

The first two conditions cited were likewise cited in your FY 1996 audit report. At that time, USGS and the Office of Inspector General audit staff agreed that it would be impractical to implement the recommendation to reprogram the Project Cost Accounting System (PCAS) and agreed to do the adjustment mentioned in the audit report. We have developed a "work around" for the system deficiency and devoted approximately one-half of a position to manually correct advances and unbilled accounts receivable. We will provide you with documentation of these "work around" procedures, and request reclassification of this finding based upon our previous agreement and subsequent efforts.

We agree with the effect of the third condition but not the cause. Collections are being posted correctly to the budget fiscal year (BFY) on the associated bill, but imbalances are created when either (1) the BFY included on the billing document differs from the BFY where expenses were incurred or (2) reimbursable receipts are recorded as 'collections' and not 'advances' in the Federal Financial System. We are addressing the first condition by increasing our monitoring of advances and accounts receivable reports to detect these situations. To address the second condition we added a review and correction of all collections to our monthly reconciliation

procedure. We are also developing procedures that would allow field offices to move advances from one BFY to another BFY for multi-year agreements, subject to review and approval by the central finance office.

B. Accrued Liabilities
The USGS agrees with this recommendation. We have explained the necessity for reviewing unliquidated obligations and establishing an accrual for goods or services received with various finance and administrative groups throughout the bureau. We have also formalized the year-end accrual policy and procedures in our closeout instructions for FY 2000. We will continue to work with program staff to address this problem.

C. Unliquidated Obligations
The USGS agrees with this recommendation and has taken a number of steps in FY 2000 to address the topic of invalid unliquidated obligations. We have issued instructions for reviewing USGS reports of unliquidated obligations. We have also established an inter-bureau group to address unliquidated obligations; that group has concentrated on intergovernmental unliquidated obligations and has developed several solutions. We have also issued a formal policy statement and procedures for deobligating invalid unliquidated obligations. Finally, we will participate in the Departmental group addressing this topic. We will continue to work on this issue with program staff and address the status of unliquidated obligations through our budget execution review process.

D. Cost Accounting
We do not concur with this finding. The USGS aligns its cost and Government Performance and Results Act (GPRA) information to comply with the managerial cost accounting standard. Our FY 1999 responsibility segments were identical to our GPRA program performance goals, and we reported the full cost of these responsibility segments as required by the standard. This reporting is supported by the Department of the Interior and fully meets its cost accounting guidance.

Please feel free to contact Jack Blickley at (703) 648-7609 or jblickley@usgs.gov if you have any questions concerning this response.

cc: Official file - Audit-General
OPS/RF
J. Blickley
FM/RF

USGS: OPS:Jblickley:jjb:x7601:8/4/00:L:\SHARE\AUDIT\Resp To Audit 8-2000.doc
(Updated August 11, 2000)

STATUS OF AUDIT REPORT RECOMMENDATIONS

Findings/Recommendation Reference	Status	Action Required
A.1 and C.1	Resolved; not implemented.	No further response to the Office of Inspector General is required. The recommendations will be referred to the Assistant Secretary for Policy, Management and Budget for tracking of implementation.
B.1 and D.1	Implemented.	No further action is required.

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Fiscal Year 1999 Budget

USGS 1999 Budget Emphasizes Clean Water, Disaster Information, Species and Habitat Research

Highlights of Congressional Action (House, Senate, and Conference Action)

The President signed the Omnibus appropriations bill (H.R. 4328, P.L. 105-277) October 21.

- Table comparing FY 1999 Conference Action to FY 1998 Enacted and FY 1999 President's Budget Request.
- The Library of Congress provides a summary page for all current 1999 appropriations bills. The site also includes many links to the bills and reports.

Summary of House Appropriations Committee recommendations for USGS, House bill is H.R. 4197 and the Report is 105-609.

Summary of Senate Appropriations Committee recommendations for USGS, Senate bill number is S.2237 and Report 105-227.

Table summary of the 1999 President's Budget request for USGS

Departmental Overview

DOI FY 1999 Annual Performance Plan *Links to Interior's eight bureaus Annual Performance Plans and the Departmental Overview*

2001 Annual Performance Plan, 1999 Performance Report (262Kb PDF)

Final Annual Performance Plan for Fiscal Year 1999 (PDF file)

Visit the USGS' section from the FY 1999 Interior Budget in Brief . This site provides a high-level overview of the USGS budget request. (You will need an Adobe Acrobat Reader to read these pages).

Other DOI Highlight sections covering 1999 initiatives:

- Clean Water
- Species & Habitat
- Ecosystems
- GPRA

FY 1999 Customer Service Plan

FY 1999 Annual Financial Report

Return to Office of Budget

For additional information, contact: cburzyk@usgs.gov