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BEFORE THE  
COMMITTEE ON RESOURCES,  
SUBCOMMITTEE ON WATER AND POWER  
U.S. HOUSE OF REPRESENTATIVES

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Good morning, Mr. Chairman and Members of the Subcommittee. Thank you for the opportunity to speak with you on behalf of the U.S. Geological Survey (USGS) regarding our scientific contributions to the stewardship of the Nation's water resources. I come before you today to present the Administration's proposal for the budget of USGS for fiscal year (FY) 2007. This budget preserves the Survey's scientific excellence in our core areas of biologic, geographic, geologic, and water resources research. The President's FY 2007 budget request for USGS is \$944.8 million in current appropriations, a decrease of \$20.6 million from the FY 2006 enacted level.

The FY 2007 President's budget continues to focus research on the highest priorities of today, ensuring that USGS maintains the expertise to answer the complex research questions that will arise tomorrow, while reflecting fiscal prudence. The budget strengthens USGS efforts in earth observation, energy research, and multi-disciplinary natural hazards research, monitoring, and warning systems, by adding \$40.1 million in new program and fixed-cost funding, which is offset by redirecting \$50.7 million from lower priority activities and eliminating \$10.0 million in earmarked funding.

Events during the past year, including earthquakes, floods, volcanic eruptions, and the hurricanes that devastated the Gulf Coast, have provided a wake-up call to Americans about the world that we inhabit. Each year, natural disasters in the United States result in hundreds of lives lost and cost billions of dollars in disaster aid, disrupted commerce, and the destruction of public and private property. It is the mission of the USGS to provide scientific research and analysis to help citizens, emergency managers, and policy makers decide how to react to each hazard and how to safeguard society. By collecting long-term data and information on past and present hazard events, by providing continuous monitoring and data collection, and by working with decision makers at all levels, we can mitigate the potential impacts, saving lives and property.

#### FY 2007 Water Resources Program Overview and Priorities

The FY 2007 budget for the USGS Water program proposes \$204.0 million to continue work on issues related to water availability, water quality, and flood hazards. This budget proposal represents an increase of \$2.3 million for streamgaging activities through the National Streamflow Information Program (NSIP). This increased funding would allow USGS to reactivate 30 real-time streamgages and would allow USGS to continue operating streamgages at high-priority sites that might otherwise be lost through lack of partner funding. The 2007 budget also contains a \$200,000 increase in the NSIP program as part of a multi-hazards demonstration project focused on Southern California. Through this project, the NSIP program will add about 18 streamgages and raingages to the existing network. Sites in Southern California will also be upgraded to allow real-time transmission of soils and environmental monitoring data. The data from these additional sites will be used in flood, landslide, and debris-flow forecasting and warning.

The Cooperative Water Program, for which the budget proposes a decrease of \$2.0 million, provides for jointly funded partnerships with State, local, and tribal agencies to collect water data and conduct interpretive studies. To enhance communication with these funding partners on a national level, on January 30, 2006, the USGS and the Interstate Council on Water Policy held a Second National Stakeholders Roundtable in Austin, Texas, which produced valuable suggestions for improvement. The proposed decrease will reduce the number of new studies that can be started in cooperation with our partner agencies, reflecting the need for fiscal prudence. A decrease of \$6.4 million eliminates USGS funding for the 54 State Water Resources Research Institutes. These Institutes generally have been successful in obtaining other sources of funding and should be able to support themselves. The FY 2007 budget includes decreases for many of the projects included in the FY 2006 appropriation that were not requested by the Administration, for the Long Term Estuary Assessment Group, for a lower priority project in the Toxic Substances Hydrology program that addresses petroleum-related contamination of the Nation's water resources, and for technical support funding associated with the National Water Quality Assessment program.

#### USGS Streamgaging Network

The USGS has played an essential role in monitoring the Nation's rivers for well over a century, providing streamflow information for protecting life and property from floods, assessing and allocating water resources, managing water quality, supporting engineering design, and ensuring safety and enjoyment for those who fish and boat the Nation's rivers and streams. The USGS currently operates more than 7,000 streamgages nationwide that provide daily streamflow records accessible to the public. A broad coalition of stakeholders have praised this "critical national system of streamgages" that provides information "vital to water resources management in the Nation.... Without timely and accurate information, human life, health, welfare, property, and environmental and natural resources are at considerably greater risk of loss."

Two programs in the USGS budget support streamgaging. One is the National Streamflow Information Program (NSIP), which funds a part of the national backbone network of Federal interest streamgages and supports the on-going modernization and improvement of the streamgaging network and infrastructure. The proposed funding level for NSIP in the FY 2007 budget reflects an increase of \$2.3 million, or about 14 percent. The other program is the Cooperative Water Program, which funds many streamgages, but does so with requirements for matching funds from State or local agencies. More than 800 streamgaging partner agencies currently participate in the cooperative program, helping to maintain streamgages vital to long-term science and engineering work, flood warning, and river operations. The FY 2007 budget proposes a decrease of \$2.0 million for the Cooperative Water Program focused on interpretive studies that will be completed. This reduction does not affect streamgaging activities.

During the 1990's, inflationary and other factors, in both the USGS and in partner agencies, caused USGS to discontinue operations at about 2 percent of its long-term streamgages each year. These streamgages, with 30 or more years of record, are essential for engineering design and scientific analysis. In addition, in some States, changing priorities of funding partners led to the discontinuation of streamgages that were vital to the flood forecasting functions of the National Oceanic and Atmospheric Administration's (NOAA) National Weather Service (NWS). In response to Congressional concern about this situation, in 1999 the USGS developed the National Streamflow Information Program, a plan to stabilize and modernize the network and provide a defined "backbone" of high-priority streamgages critical to public safety and long-term water resources assessment. The NSIP plan calls for Federal investment to fund a core network of streamgages that meet national needs. The proposed increase of \$2.3 million will increase the number of real-time streamgages reporting in NSIP by 30 and enable the USGS to continue implementation of the plan.

One of the strengths of the USGS streamgage network is that it can provide, at any point in time, a snapshot of the current hydrologic conditions across the country. This snapshot can be seen on the internet at our Waterwatch site (<http://water.usgs.gov/waterwatch/>) which is updated every 15 minutes with the most current information from across the Nation. On February 28, for example, north-central California had generally high streamflow, whereas streamflow in Missouri and Arkansas was substantially below normal. These data on drought and floods are fundamental to the forecasts produced by the NWS and are used extensively by operational agencies such as the Bureau of Reclamation and Army Corps of Engineers. A new web site "US Water Monitor" (<http://watermonitor.gov/>) highlights enhanced cooperation among water agencies. The site integrates streamflow, flood prediction, groundwater, snowpack, reservoir level, and drought information into a single web portal.

## Floods

In the late summer of 2005, the remarkable flooding brought by Hurricane Katrina, which caused more than \$200 billion in losses, constituted the costliest natural disaster in U.S. history. However, even in typical years, flooding causes billions of dollars in damage and threatens lives and property in every State. On average, floods kill about 140 people each year and cause \$6 billion in property damage.

Although loss of life to floods during the past half-century has declined, mostly because of improved warning systems, economic losses have continued to rise due to increased urbanization and coastal development. Strategies to reduce flood losses must be based on the best possible understanding of how and where floods happen and how they cause damage.

The responsibility for issuing flood watches and warnings lies with the National Weather Service, which depends heavily on real-time and long-term streamflow information from the USGS streamgaging network. USGS streamflow information provides the historical and current flow data needed to calibrate NWS models and to assure that NWS forecasts stay on track with developing conditions. Streamgage data are also essential for designing structures resilient to flooding and are the bases for the Federal Emergency Management Agency National Flood Insurance Program, the only Federal insurance program for natural hazards. The USGS national streamgage network forms the scientific basis both for emergency response during flooding and for long-term planning before and after floods.

## USGS Core Scientific Responsibilities

For FY 2007, USGS proposes an increase of \$2.2 million for a new integrated multi-hazards demonstration project to show that integrating information and products about multiple hazards can enhance local community preparations for and recovery from natural disasters and thus reduce loss of life and property. The demonstration project initiative brings the unique research and systems capabilities of USGS to bear on the complex issues surrounding natural hazards events, especially interrelated hazards, such as fire, floods, and debris flows, or earthquakes and tsunamis. The demonstration project will be conducted in Southern California, which has one of the Nation's highest potentials for catastrophic losses from a number of natural hazards. Estimates of expected losses from natural hazards in the eight counties of Southern California exceed \$3 billion per year and are expected to increase as the present population of 20 million grows at more than 10 percent per year. The project will focus on those natural hazards posing a significant threat to life and property in Southern California—earthquakes, floods, landslides, tsunamis, and wildfires—and will build on work already underway in the study area. The project is funded through the Geographic Analysis and Monitoring subactivity (\$300,000), Earthquake Hazards Program (\$300,000), Landslide Hazards Program (\$200,000), Coastal and Marine Geology Program (\$200,000), National Streamflow Information Program (\$200,000), Biological Research and Monitoring subactivity (\$300,000), and National Geospatial Program (\$680,000). These increases will enable USGS to generate the specialized scientific data and analyses needed to develop products and tools that the public and private sectors can use to mitigate the societal and economic consequences of natural disasters.

The President's FY 2007 budget provides \$76.6 million for Geography, supporting a strong role for USGS in land remote sensing and geographic research. The request level is \$52.7 million below 2006 due to the transfer of the Cooperative Topographic Mapping program to the Enterprise Information activity, as part of a proposed budget restructure. The restructure is necessary to allow USGS to better focus efforts on developing geographic research and applications activities within the Geographic Analysis and Monitoring and Land Remote Sensing programs. The restructure also allows USGS to bring the geospatial data coordination, standards, partnerships, and policy development efforts for the Federal Geographic Data Committee, Geospatial One-Stop, and the National Map together in one organization. Increases to the Geography program budget include \$16.0 million in Land Remote Sensing to complete the design and begin building ground station capabilities to collect, archive, and distribute Landsat data from the new Landsat 8 satellite, which is to be built by the National Aeronautics and Space Administration and is currently estimated to launch in January 2010. Landsat 8 will replace Landsats 5 and 7, which are now experiencing problems. Satellite imagery from the Landsat series has been invaluable for agriculture, land use change, climate studies, assessment of natural disasters, U.S. national security affairs, and other scientific and economic applications. The planned Landsat 8 satellite and ground data processing system will ensure that the United States maintains its technological and scientific leadership in operational land imaging and the Nation's commitment to continuous observation and study of our ever-changing planet. Decreases eliminate \$3.0 million in funding for AmericaView and \$2.3 million for lower priority geographic research.

The FY 2007 budget proposes \$217.4 million for geology activities, which is \$17.9 million below the 2006 enacted level. The Geology budget proposal includes \$700,000 of the requested \$2.2 million for the integrated multi-hazards pilot initiative, described above. The Geology funding level also includes increases in support of the Energy Policy Act of 2005, with \$500,000 proposed for gas hydrate research in cooperation with activities in the Bureau of Land Management and the Minerals Management Service, \$500,000 to begin an oil shale assessment, and \$1.0 million to begin an effort to collect and preserve vital geological and geophysical energy data. To provide resources for other Administration, Interior, and USGS priority efforts and to support the Administration's plan to reduce the Federal deficit by half by 2009, the budget proposes a decrease of \$22.9 million for the Mineral Resources program. This decrease will discontinue or reduce global mineral resource assessments of mineral commodities; research on industrial minerals; research on inorganic toxins; materials flow analyses; the Mineral Resources External Research program; and data collection and analysis for 100 mineral commodities in 180 countries outside the United States. The program will focus on activities that are inherently governmental; specifically, providing data and analyses to support the land management programs of Interior bureaus and offices. There is also a decrease of \$838,000 for unrequested earmarks.

The FY 2007 budget requests \$172.6 million for biological research. The budget includes an increase of \$1.0 million to maintain data quality and consistency of natural heritage databases provided by NatureServe as part of a broader strategy of improving delivery and access to information needed to support Interior bureaus in the management of natural resources, and \$300,000 for biological research and monitoring in support of the integrated multi-hazards demonstration project. A decrease of \$2.0 million is proposed for the National Biological Information Infrastructure program as a result of streamlined efficiencies in providing data and analyses, and decreases of \$7.3 million reflect discontinued lower priority studies and unrequested earmarks in biological research. The budget includes the continuation of \$3.2 million for avian influenza provided through an emergency supplemental appropriation to the FY 2006 budget; this level reflects a reduction of \$400,000 for a one-time purchase of research equipment in 2006.

The FY 2007 budget requests \$274.1 million for science support, enterprise information, and facilities. This funding level includes an increase of \$64.8 million in Enterprise Information associated with the proposed transfer of the Cooperative Topographic Mapping program from the Geography activity. The budget also includes reductions of \$3.0 million for efficiencies associated with geospatial data integration and enterprise operations, \$3.9 million in one-time Landsat

funding appropriated in 2006, and \$540,000 in space savings.

## Conclusion

The USGS continues to make a difference in the quality of life in America and around the world. Tomorrow, March 3, is the 127<sup>th</sup> birthday of USGS. Throughout its history, USGS science has contributed to the Nation's economic and environmental health and to the health, safety, and prosperity of its people. The USGS, the Nation, and the world will face many challenges during the years ahead: water availability and quality, climate change, emerging diseases, prediction of natural hazards, and many as-yet-unforeseen problems. The USGS will build on its long tradition of service to provide a wealth of data, long-term scientific understanding, and scientific tools that serve the needs of the American people and the world, and contributions that reduce public risk and safeguard the public from natural hazards.