

USGS COALITION

Testimony of the USGS Coalition
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Regarding the U.S. Geological Survey FY 2017 Budget

To the
Senate Committee on Appropriations
Subcommittee on Interior, Environment, and Related Agencies

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The USGS Coalition appreciates the opportunity to provide testimony about the fiscal year (FY) 2017 budget for the United States Geological Survey (USGS). The USGS Coalition supports the Administration's budget request of **\$1.2 billion for the USGS**. The requested funding would allow the agency, by advancing scientific discovery and innovation, to sustain current efforts and make strategic investments that will produce the impartial knowledge and decision support tools needed by decision-makers across the country.

Few modern problems can be addressed by a single scientific discipline. The USGS is uniquely positioned to provide information and inform responses to many of the nation's greatest challenges. The USGS is an agency that has a unique capacity to deploy truly interdisciplinary teams of experts to gather data, conduct research, and develop integrated decision support tools that improve ecosystem management, ensure accurate assessments of our water quality and quantity, reduce risks from natural and human-induced hazards, deliver timely assessments of mineral and energy resources, and provide emergency responders with accurate geospatial data and maps.

The USGS Coalition is an alliance of over 70 organizations united by a commitment to the continued vitality of the United States Geological Survey to provide critical data and services. The Coalition supports increased federal investment in USGS programs that underpin responsible natural resource stewardship, improve resilience to natural and human-induced hazards, and contribute to the long-term health, security, and prosperity of the nation.

Essential Services for the Nation

Established by Congress as a branch of the Department of the Interior in 1879, the United States Geological Survey has a national mission that extends beyond the boundaries of the nation's public lands to positively impact the lives of all Americans. The agency plays a crucial role in protecting the public from natural hazards, assessing water quality and quantity, providing geospatial data, and conducting the science necessary to manage our nation's biological, mineral,

and energy resources. Through its offices across the country, the USGS works with partners to provide high-quality research and data to policymakers, emergency responders, natural resource managers, civil and environmental engineers, educators, and the public. A few examples of the USGS' valuable work are provided below.

The USGS plays an important role in reducing risks from natural hazards that jeopardize human lives and result in billions of dollars in damages annually. Seismic networks and hazard analysis are used to formulate earthquake probabilities and to establish building codes. The continued efforts on an earthquake early warning system, ShakeAlert, can provide advance notice of ground shaking from an earthquake to allow for the protection of life and property. USGS volcano monitoring provides warnings to avian officials about impending eruptions. Data from the USGS network of streamgages enable the National Weather Service to issue flood and drought warnings. The bureau and its federal partners map seasonal wildfires and assess the potential spread of fires.

The Survey collects scientific information on water availability and quality to inform the public and decision-makers about the status of freshwater resources and how they are changing over time. During the past 130 years, the USGS has collected streamflow data at over 21,000 sites, water-level data at over 1,000,000 wells, and chemical data at over 338,000 surface-water and groundwater sites. This information is needed to effectively manage freshwaters – both above and below the land surface – for domestic, public, agricultural, commercial, industrial, recreational, and ecological purposes.

USGS assessments of mineral and energy resources – including rare earth elements, coal, oil, unconventional natural gas, and geothermal – are essential for making decisions about the nation's future. The Survey identifies the location and quantity of domestic mineral and energy resources, and assesses the economic and environmental effects of resource extraction and use. The agency is mapping domestic supplies of rare earth elements necessary for widespread deployment of new energy technologies, which can reduce dependence on foreign oil. The USGS is the sole federal source of information on mineral potential, production, and consumption.

USGS science plays a critical role in informing sound management of natural resources on federal and state lands. The USGS conducts research and monitoring of fish, wildlife, and vegetation – data that informs management decisions by other Interior bureaus regarding protected species and land use. Ecosystems science is also used to control invasive species and wildlife diseases that can cause billions of dollars in economic losses. The Survey provides information for resource managers as they develop adaptive management strategies for restoration and long-term use of the nation's natural resources in the face of environmental change.

Research conducted by the USGS is vital to predicting the impacts of land use and climate change on water resources, wildfires, and ecosystems. The Landsat satellites have collected the largest archive of remotely sensed land data in the world, allowing for access to current and historical images that are used to assess the impact of natural disasters and monitor global agriculture production. The USGS also assesses the nation's potential for carbon sequestration.

Other Interior bureaus use USGS research on how climate variability affects fish, wildlife, and ecological processes to inform natural resource management decisions.

Funding

Over the years, Congress has worked in a bipartisan fashion to provide essential funding to the USGS. These efforts have paid dividends and helped the USGS provide answers to the challenging questions facing decision-makers across the country.

The funding level proposed for FY 2017 for the USGS would allow the agency to invest in mission critical areas, including:

- Support for development of the Landsat 9 ground system;
- Development of methods to assess regional and national water use trends during drought;
- New research on native pollinators, which are essential to our nation's agricultural and natural systems;
- Establishment of a real-time water quality monitoring capabilities along the Northeast Coast to further a prototype contaminant detection network;
- Improvement of earthquake monitoring in the Central and Eastern U.S.;
- Development of new tools to detect and control new and emerging invasive species;
- Establishment of a new Great Lakes Climate Science Center to improve research in this distinctive region;
- Accelerate assessments of domestic unconventional oil and gas resources;
- Expand use of rapid deployable streamgages to improve data collection during floods;
- Enhanced research in the Arctic on sea-level rise, severe storms, and/or melting permafrost; and
- Provide support for 3DEP to provide lidar coverage for the country and increased support for topographical mapping for the United States.

We are also pleased to see the proposed increases for Core Science Systems, Science Support, and facilities. These parts of the USGS budget are essential to the success of scientific research and monitoring conducted by other programs in the bureau. All three budget lines were lower in FY 2016 than they were in FY 2011. Currently, the USGS is faced with approximately \$400 million in deferred maintenance to facilities and research centers. Continued deferment is creating situations in which one-of-a-kind and mission critical samples and data are being lost.

Through careful management and deferring staff travel and training, the USGS has survived the recent budget cuts resulting from sequestration. Staff training and participation in scientific meetings, however, are necessary investments that help USGS maintain its technical capacity. It is through exchanges at scientific meetings and workshops that new ideas emerge and scientific analyses are shared, challenged by colleagues, and honed prior to submitting research for

publication in peer-reviewed journals. We encourage Congress to work with the USGS to ensure that scientists are able to fully participate in scientific meetings.

As a science agency, much of the USGS budget is dedicated to salaries and equipment that must be maintained and updated to ensure the continuity of data acquisition and that the data gathered are reliable and available for future scientific investigations. We believe that the leadership of the USGS is doing all it can, and has been for a number of years, to contain costs while continuing to deliver high quality science.

Conclusion

We recognize the financial challenges facing the nation, but losing irreplaceable data can increase costs to society today and in the future. Data not collected and analyzed today is data lost forever. This is particularly significant for environmental monitoring systems, where the loss of a year's data can limit the scope and reliability of long-term dataset analysis. The USGS Coalition requests that Congress work to provide \$1.2 billion for FY 2017.

The USGS Coalition appreciates the subcommittee's past leadership in strengthening the United States Geological Survey. Thank you for your thoughtful consideration of this request.