Testimony of the

Geological Society of America

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Regarding the

U.S. Geological Survey

FY 2011 Budget Request

To the

U.S. House of Representatives

Committee on Appropriations
Subcommittee on Interior, Environment, and Related Agencies
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Summary

The Geological Society of America (GSA) urges Congress to appropriate at least $1.3 billion for the U.S. Geological Survey (USGS) in fiscal year 2011. The USGS is one of the nation's premier science agencies. It addresses many of society's greatest challenges, including energy resources, climate change, water resources, and natural hazards. The devastating earthquake in Haiti on January 12, 2010 and the enormous earthquake in Chile on February 27, 2010 emphatically demonstrate the value of robust natural hazards monitoring and warning systems and the need for increased federal investments in the USGS. Nevertheless, funding for USGS has stagnated in real dollars for more than a decade (Figure 1).

The Geological Society of America supports strong and growing investments in earth science research at the U.S. Geological Survey and other federal agencies. Substantial increases in federal funding for earth science research are needed to ensure the health, vitality, and security of society and for stewardship of Earth. The USGS has a unique combination of biological, geographical, geological, and hydrological programs that enables it to address interdisciplinary research challenges that are beyond the capabilities of most other organizations. The USGS benefits every American every day.

The Geological Society of America, founded in 1888, is a scientific society with over 22,000 members from academia, government, and industry in all 50 states and more than 90 countries. Through its meetings, publications, and programs, GSA enhances the professional growth of its members and promotes the geosciences in the service of humankind. GSA encourages cooperative research among earth, life, planetary, and social scientists, fosters public dialogue on geoscience issues, and supports all levels of earth science education.

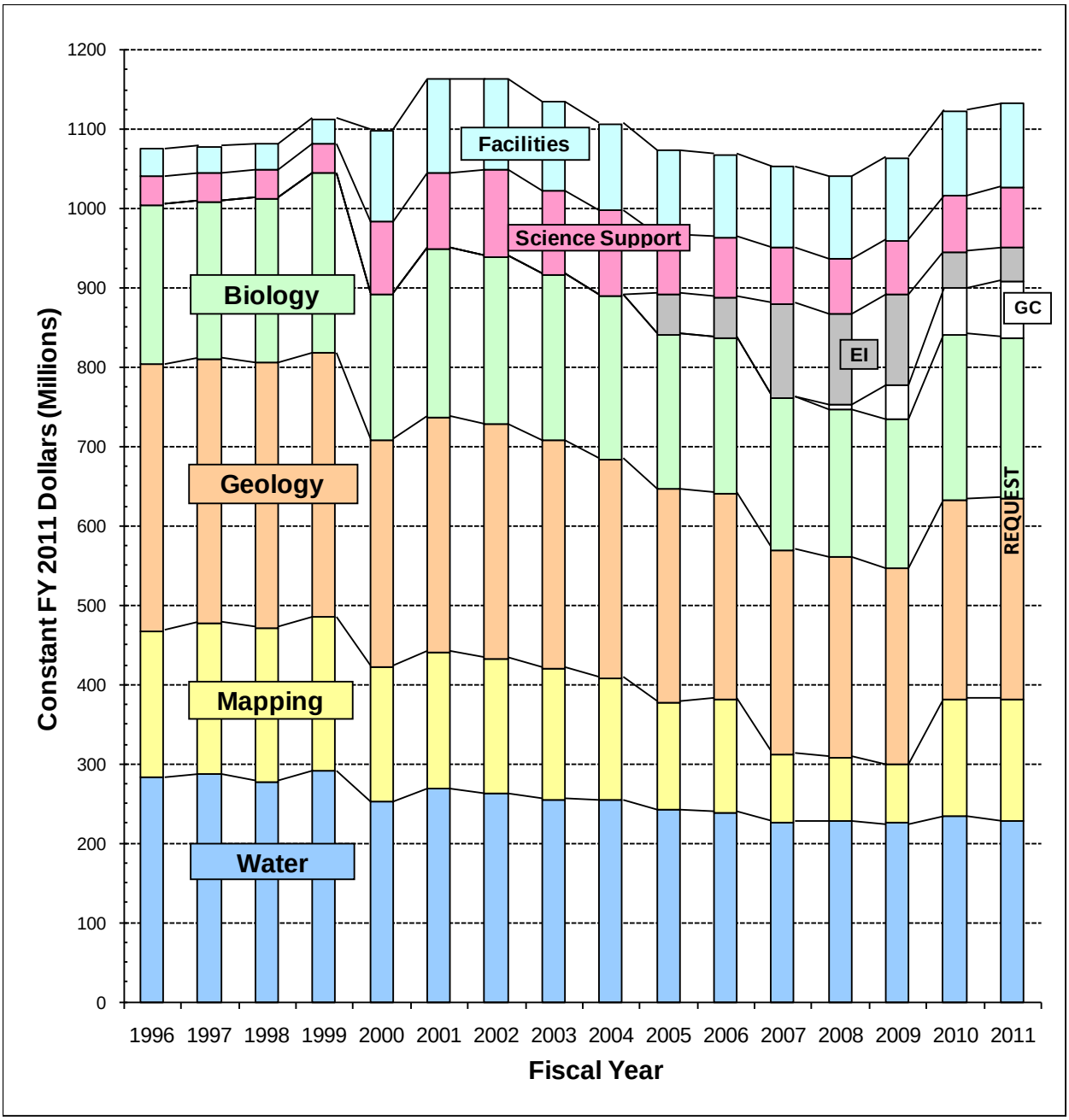

Figure 1. USGS funding in constant 2011 dollars, FY 1996 – FY 2011. EI is Enterprise Information and GC is Global Change. Data from USGS Budget Office.

Rationale

Science and technology are engines of economic prosperity, environmental quality, and national security. Federal investments in research pay substantial dividends. According to the National Academies' report *Rising Above the Gathering Storm* (2007), "Economic studies conducted even before the information-technology revolution have shown that as much as 85% of measured growth in US income per capita was due to technological change."

The earth sciences are critical components of the overall science and technology enterprise. Growing investments in earth science research are required to stimulate innovations that fuel the economy, provide security, and enhance the quality of life. Substantial increases in federal funding for earth science research are needed to ensure the health, vitality, and security of society and for Earth stewardship. Earth science research provides knowledge and data essential for developing policies, legislation, and regulations regarding land, mineral, energy, and water resources at all levels of government.

Broader Impacts of the Earth Sciences

It is critically important for Congress to provide significant increases in funding for the USGS to meet challenges posed by human interactions with Earth's natural systems and to help sustain these natural systems and the economy. Additional investments in the USGS are necessary to address such issues as natural hazards, energy, water resources, and climate change.

- Natural hazards, such as earthquakes, tsunamis, volcanic eruptions, floods, droughts, wildfires, and hurricanes, remain a major cause of fatalities and economic losses world-wide. An improved scientific understanding of geologic hazards will reduce future losses through better forecasts of their occurrence and magnitude. The devastating earthquake in Haiti on January 12, 2010 and the enormous earthquake in Chile on February 27, 2010 emphatically demonstrate the value of robust natural hazards monitoring and warning systems and the need for increased federal investments in the USGS.
- Energy and mineral resources are critical to the functioning of society and to national security and have positive impacts on local, national, and international economies and quality of life. These resources are often costly and difficult to find, and new generations of geoscientists need the tools and expertise to discover them. In addition, management of their extraction, use, and residue disposal requires a scientific approach that will maximize the derived benefits and minimize the negative effects. Improved scientific understanding of these resources will allow for their better management and utilization, while at the same time considering economic and environmental issues. This is particularly significant because shifting resource demands often reframe our knowledge as new research–enabling technologies become available.
- The availability and quality of surface water and groundwater are vital to the well being of both society and ecosystems. Greater scientific understanding of these critical resources—and communication of new insights by geoscientists in formats useful to decision makers—is necessary to ensure adequate and safe water resources for the future.
- Forecasting the outcomes of human interactions with Earth's natural systems, including climate change, is limited by an incomplete understanding of geologic and environmental processes. Improved understanding of these processes in Earth's history can increase confidence in the ability to predict future states and enhance the prospects for mitigating or reversing adverse impacts to the planet and its inhabitants.
- Research in earth science is also fundamental to training and educating the next generation of earth science professionals.

The U.S. Geological Survey should be a component of broader initiatives to increase overall public investments in science and technology. For example, earth science research should be

included in a recommendation by the National Academies to "increase the federal investment in long-term basic research by 10% each year over the next 7 years…" (*Rising Above the Gathering Storm*, 2007). Likewise, when Congress reauthorizes the America COMPETES Act, it should broaden the act to include a new title that puts the USGS budget on the same doubling track as other key science agencies.

Budget Shortfalls

President Obama's FY 2011 budget request for the U.S. Geological Survey is $1.133 billion, an increase of $21.6 million of 1.9 percent over the FY 2010 enacted level. The USGS budget request includes $52.0 million in program increases, $18.6 million in program decreases, and $11.7 million in additional decreases made on a Department of the Interior-wide basis. The budget request also assumes that the USGS will absorb $13.5 million in uncontrollable cost increases. Underfunding of uncontrollable cost increases over many years has compromised the scientific capacity of the USGS. We urge Congress to restore proposed cuts in the USGS budget request, to provide full funding for uncontrollable cost increases, to provide new funds to enable the agency to address a growing backlog of needs for USGS science and information and undertake new initiatives. Congress should support proposed USGS budget increases for initiatives including the New Energy Frontier, Climate Change Adaptation, WaterSMART Program, Treasured Landscapes (Chesapeake Bay Executive Order), Increasing Resilience to Natural Hazards, Landsat Data Continuity Mission, and Coastal and Marine Spatial Planning.

The USGS budget fell in real dollars for seven consecutive years from FY 2001 to FY 2008 (Figure 1). Despite budget increases in FY 2009 and FY 2010, the USGS budget request for FY 2011 remains below the USGS budget for FY 2001 in real dollars. The decline in funding for the USGS during this time period would have been greater if Congress had not repeatedly restored proposed budget cuts. Federal funding for non-defense R&D has increased significantly while funding for the USGS stagnated for more than a decade.

The Geological Society of America joins with the USGS Coalition and other organizations in recommending an appropriation of $1.3 billion for the USGS in FY 2011. This budget would enable the USGS to address the growing backlog of science needs that has resulted from stagnant real budgets for more than a decade, accelerate the timetable for deployment of critical projects, and launch science initiatives that address new challenges.

The Geological Society of America is grateful to the House Appropriations Subcommittee on Interior, Environment, and Related Activities for its past leadership in increasing the budget for the U.S. Geological Survey. We remain grateful to the subcommittee for its leadership in providing $143 million in stimulus funds for the USGS under the American Recovery and Reinvestment Act of 2009. Thank you for your thoughtful consideration of our request. For additional information or to learn more about the Geological Society of America—including GSA Position Statements on water resources, energy and mineral resources, natural hazards, and public investment in earth science research—please visit www.geosociety.org or contact Dr. Craig Schiffries at cschiffries@geosociety.org.