FY 2017 USGS Budget Request

Supporting our future through the adaptive and sustainable use of Energy and Mineral Resources

The FY 2017 Budget Request for Energy and Minerals Resources is $74,923,000, a net change of +$1,857,000 from the 2016 Enacted level.

USGS science informs decision making to improve our economy, our environment, and our quality of life.

Dollars in Thousands	2015	2016	2017			
	Base	Enacted	Fixed Costs	Program Changes	Request	Change from 2016 Enacted
Energy and Mineral Resources, and Environmental Health	**$92,271**	**$94,511**	**$453**	**$4,519**	**$99,483**	**$4,972**
Mineral and Energy Resources	**$70,826**	**$73,066**	**$361**	**$1,496**	**$74,923**	**$1,857**
Mineral Resources Program	**$45,931**	**$48,371**	**$243**	**$81**	**$48,695**	**$324**
Critical Minerals and Materials Flow Initiative	*[$6,022]*	*[$8,462]*		*[+$1,022]*	*[$9,484]*	*[+$1,022]*
R&D to Address Environmental Impacts of Minerals Development	*[$5,000]*	*[$5,000]*		*[+$559]*	*[$5,559]*	*[+$559]*
Geophysical and Remote Sensing Activities	*[$3,000]*	*[$3,000]*		*[-$1,500]*	*[$1,500]*	*[-$1,500]*
Energy Resources Program	**$24,895**	**$24,695**	**$118**	**$1,415**	**$26,228**	**$1,533**
Unconventional Oil and Gas Research	*[$5,850]*	*[$5,850]*		*[$975]*	*[$6,825]*	*[$975]*
Alternative Energy Permitting on Federal Lands - Geothermal	*[$425]*	*[$425]*		*[$229]*	*[$654]*	*[$229]*
Ecosystem Services: Enhancing Resilience in Coastal Infrastructure and Evaluating Green Infrastructure Investment	*[$75]*	*[$75]*		*[$211]*	*[$286]*	*[$211]*
Environmental Health	**$21,445**	**$21,445**	**$92**	**$3,023**	**$24,560**	**$3,115**
Contaminant Biology Program	**$10,197**	**$10,197**	**$45**	**$1,223**	**$11,465**	**$1,268**
Critical Landscapes: Columbia River	*[$50]*	*[$50]*		*[+$50]*	*[$100]*	*[+$50]*
Environmental Impacts of Uranium Mining	*[$400]*	*[$400]*		*[+$273]*	*[$673]*	*[+$273]*
Unconventional Oil and Gas Research	*[$30]*	*[$30]*		*[+$900]*	*[$930]*	*[+$900]*
Toxic Substances Hydrology Program	**$11,248**	**$11,248**	**$47**	**$1,800**	**$13,095**	**$1,847**
Resilient Coastal Landscapes and Communities: Contaminant Network Along the Northeast Coast	*[$0]*	*[$0]*		*[+$1,300]*	*[$1,300]*	*[+$1,300]*
Emerging Contaminants and Chemical Mixtures	*[$750]*	*[$750]*		*[-$750]*	*[$0]*	*[-$750]*
Critical Landscapes: Columbia River	*[$50]*	*[$50]*		*[+$50]*	*[$100]*	*[+$50]*
Environmental Impacts of Uranium Mining	*[$750]*	*[$750]*		*[+$1,750]*	*[$2,500]*	*[+$1,750]*
Unconventional Oil and Gas Research	*[$770]*	*[$770]*		*[+$250]*	*[$1,020]*	*[+$250]*
Fate and Transport of Contaminants in the Subsurface	*[$800]*	*[$800]*		*[-$800]*	*[$0]*	*[-$800]*

Accurate scientific information about our Nation's mineral and energy resources is critical for policy makers and resource managers to have in order to make responsible decisions about resource development. Our Nation continues to depend on energy to power our homes and businesses, and minerals to manufacture products we rely on every day, from cell phones and laptops, to hybrid cars, to the wiring and pipes that bring us electricity and water. Our policy makers also rely on global mineral commodity data to make informed decisions about national security and international trade policy. The impartial, in-depth science provided by the Mineral Resources Program (MRP) and the Energy Resources Program (ERP) facilitates responsible natural resource development and strategic, evidence-based economic and geopolitical decisions.

The Mineral and Energy Resources programs conduct research on the location, quantity, and quality of the Nation's and the world's mineral and energy resources, including the interaction of these resources with the environment, both naturally and as a result of extraction and use. Both programs provide valuable information to resource managers, policy makers, and the public to support science-based policy development, land and resource management, and decision making on a range of critical issues.

Highlights of the 2017 President's Budget for Energy and Mineral Resources include:

Alternative Energy Permitting on Federal Lands – Geothermal +$229,000 for a total of $654,000: Renewable and alternative energy sources are sustainable sources for meeting our Nation's energy demand. Geothermal energy in particular represents a largely untapped source of renewable power potential. A 2008 USGS Energy Resources Program assessment of national geothermal resources indicated that enhanced geothermal systems (EGS), if successfully developed, could support an installed geothermal electric power-generating capacity equivalent to about half the U.S. electric power-generating capacity. The 2017 increase would be used to conduct studies on the favorability of geothermal resources, and develop research and technology such as miniature unmanned aerial systems (UAS) to study the potential impacts of geothermal resource development through heat mapping. Information will be used to inform alternative energy permitting decisions and land use planning decisions on Federal lands by the Bureau of Land Management and other agencies.

Unconventional Oil and Gas Research +$975,000 for a total of $6,825,000 (USGS Total: $16,704,000): Our Nation relies on a steady supply of energy resources to power our homes and businesses. Coal and petroleum resources remain a crucial part, constituting over 80 percent of the domestic energy supply (Source: Energy Information Administration, 2015). Through responsible development of these resources, we can create a new energy frontier that supports our economy and safeguards our national security and our environment. The 2017 increase would expand research to help predict the quality and quantity of waste fluids associated with energy production; conduct annual field research in Alaska to support the assessment of undiscovered UOG on the North Slope; expand domestic assessment of shale and tight oil and gas to increase the number of evaluations performed by about two per year; increase cooperative efforts with state geologic surveys to acquire fundamental data needed for UOG assessments; and expand petroleum processes research to improve understanding of the nature of UOG resources.

Critical Minerals and Materials Flow Initiative +$1,022,000 for a total of $9,484,000: Global demand for critical mineral commodities is on the rise, with demand mainly being driven by new technologies and consumer products. As a result, there is a growing need for up-to-date information on national and global critical mineral resources. The MRP both characterizes and identifies critical mineral resources important to our Nation's economy and way of life. In addition, the MRP examines changes in supply risk and the impact of potential supply disruptions for critical minerals. The 2017 increase would expand work on identifying and evaluating new sources of critical minerals and continue lifecycle work on critical minerals.

R&D to Address Environmental Impacts of Minerals +$559,000 for a total of $5,559,000: The MRP supports development of tools and techniques designed to understand what happens when mineral deposits are weathered or mined. Mineral environmental assessments use understandings of mineral deposits to anticipate environmental challenges associated with abandoned mines and the effects of developing new mineral deposits, providing specific information on the potential release of contaminants into the environment. The 2017 increase would focus efforts on the development of new science and tools to reduce the impacts of minerals extraction, production, and recycling on the global environment and human health, including research on supply chain, life cycle, resource sustainability, and minimizing environmental impacts of mineral extraction.