



## FY 2017 USGS Budget Request

### Safeguarding health and the economy with Environmental Health Science

The FY 2017 Budget Request for Environmental Health is \$24,560,000, a net change of +\$3,115,000 from the 2016 Enacted level.

*USGS science lessens the effects of contaminants and infectious disease and improves our safety and quality of life.*

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

The Environmental Health programs provide the science needed to anticipate, detect, and prevent adverse health impacts from existing and emerging contaminants, toxins, and pathogens in the environment. USGS Environmental Health research plays an integral part in protecting the health of our physical environment, our living environment, and public health by delivering science and information on the sources, occurrence, behavior, and effects of toxic substances in the natural and built environments. Public health and other governmental decision makers rely on USGS Environmental Health science to develop policies and practices for mitigation of

environmental deterioration from contaminants, identifying and minimizing potential exposures to environmental contaminants, cost-effective cleanup and waste-disposal strategies, and reduction of future contamination risk.

***Highlights of the 2017 President's Budget for Environmental Health include:***

**Environmental Impacts of Uranium Mining +\$2,023,000 for a total of \$3,173,000:** In January 2012, then Secretary of the Interior Ken Salazar announced his decision to withdraw one million acres of Federal land from uranium and other hard rock mining in Northern Arizona, including the Grand Canyon, until 2032. This Public Land Order will provide time for research and monitoring of the effects of mining to inform future land use decisions in this critical geographic area. The USGS continues to lead the multi-agency effort and is evaluating the risk of uranium mining to the Grand Canyon ecosystem. With the proposed increase in 2017, the USGS would study the amount of uranium metal and its radiation in birds, mammals, and reptiles, as well as water and dust, near targeted active mines. The 2017 results will then be compared to the baseline data to measure the environmental impacts of uranium mining and its associated release of radiation beyond what is naturally occurring.

**Unconventional Oil and Gas Research +\$1,150,000 for a total of \$1,950,000 (USGS Total: \$16,704,000):** USGS Environmental Health research traces chemical and microbial contaminants from their sources (e.g., pesticides from agricultural runoff; spills and pipeline leaks from unconventional oil and gas development), through their modes of transport (e.g., seepage into groundwater), to the initial exposure of an organism (e.g., fish exposed through contaminated water), and finally, through their ultimate health impacts on animals and people (e.g., human consumption of affected fish and resulting negative health effects). The USGS, as part of a Federal multiagency collaboration on unconventional oil and gas (UOG) research, is working with public health agencies and other partners toward the development of a better scientific understanding of how human health may be impacted by the effects of UOG development. The 2017 increase would expand testing to help add to a body of collaborative research needed for assessment of potential biological effects of UOG development on living organisms, including humans.

**Resilient Coastal Landscapes and Communities: Contaminant Network Along the Northeast Coast +\$1,300,000 for a total of \$1,300,000:** As part of the Hurricane Sandy supplemental, the USGS received \$2 million for this effort in 2014, and has established a prototype contaminant vulnerability assessment network and standard operating procedures based on a prioritized monitoring and modeling infrastructure supported with extensive landscape-scale assessments of potential contaminant sources. The requested increase would continue that work to support coastal resiliency efforts, establishing real-time water quality monitoring capabilities in key locations associated with a prototype contaminant network along the northeast coast, and supporting the development of standard operating procedures for the rapid deployment and mobilization of field crews to collect environmental samples following a hurricane or other coastal disaster.