

Science to Meet Tomorrow's Challenges

The President's FY 2010 Budget Proposal for the USGS

Summary

The President has proposed a budget of \$1.1 billion for the U.S. Geological Survey in fiscal year 2010, an increase of \$54.0 million from the FY 2009 enacted level.

Secretarial Initiatives

A New Energy Frontier **\$3,000,000**

The New Energy Frontier initiative will build upon the core capabilities of the USGS as a multidisciplinary earth science agency. In support of the President's and Secretary's priority of expanding the generation and transmission of renewable resources, the USGS will study geothermal resources — a promising but underutilized energy source — and it will evaluate the impacts of renewable energy options (including geothermal, biofuels, wind and solar) on ecosystems and wildlife populations. The USGS will engage multiple partners in government, academia and industry who are also exploring these complicated natural resource issues. The partner list includes other Interior agencies such as NPS, FWS, BLM, and MMS, other Federal agencies such as DOE and USDA, State agencies and industry consortia. For further information, visit <http://energy.usgs.gov/>.

Climate Impacts **\$22,000,000**

Responding to the effects of global climate change requires constructing new levels of integrated information from multiple science disciplines. Under the Climate Impacts initiative, the USGS will lead a multi-agency effort to build a DOI Climate Impacts Monitoring effort to provide more useful, more focused and more timely science information on climate change and its related effects for resource management and policy decision-making. Building on standardized approaches developed at the national level by the National Climate Change and Wildlife Science Center (NCCWSC), regional Climate Science Hubs will be developed according to the national strategy. As mandated in the Energy Independence and Security Act of 2007, USGS is developing methodology to assess carbon sequestration and will use this methodology to conduct a national assessment. USGS work will include both geological and biological forms of carbon sequestration. USGS will provide scientific leadership in developing methodologies to assess biological carbon sequestration and greenhouse gas fluxes and in implementing a national assessment of ecosystem

carbon storage and greenhouse gas fluxes. The initiative will enable USGS to integrate capabilities in modeling current and projected physical and biological change across extensive landscapes and aquatic systems and habitats with studies of ecosystem and population processes. USGS will provide ecological and population modeling capacity to U.S. Fish and Wildlife Service Landscape Conservation Cooperatives and provide information to Fish and Wildlife for use in Strategic Habitat Conservation. For further information, visit <http://geochange.er.usgs.gov/>.

A 21st Century Youth Conservation Corps **\$2,000,000**

Through the 21st Century Youth Conservation Corps initiative, the USGS will expand education, training, and workshop opportunities to provide more in-depth training through coursework and internships for high school and college students. This initiative would increase by 120 the total number of internships and fellowships supported or facilitated by the USGS educational program. For further information, visit <http://education.usgs.gov/>.

Other Increases

Extended Continental Shelf **\$1,000,000**

An increase in funding for extended continental shelf efforts will enable completion of the analysis and synthesis of data collected during two previous seafloor mapping cruises in the Arctic. Additionally, it will allow USGS principal investigators, working with the Department-of-State-led Inter-agency Task Force on the extended continental shelf, to lay the groundwork for additional seafloor mapping expeditions, including collaborative development of a national delineation of the extended continental shelf. For further information, visit <http://marine.usgs.gov/>.

Enhance the National Streamgauge Network **\$5,000,000**

Streamgages are the essential monitoring tools used to track the flow of water and associated components in streams and rivers across the nation. Relying on its streamgauge net-

work funded in partnership with over 800 Federal, State, and local agencies, the USGS is conducting research to determine the potential effects of changes in climate patterns on the occurrence and distribution of freshwater. Scientists are determining how climate has changed in the past in order to forecast hydrologic responses to shifting climate conditions in the future. This increase will support the re-establishment of discontinued streamgages and support the operation and maintenance of existing streamgages. For further information, visit <http://water.usgs.gov/>.

Changing Arctic Ecosystems **\$4,200,000**

The USGS has demonstrated that widespread loss of arctic sea ice and terrestrial permafrost-supported habitats has serious consequences for the polar bear and will be a significant long-term challenge for other species and ecosystems under Department of the Interior jurisdiction. This program increase will support a strategic expansion of the physical-biological forecasting capacity that was used successfully to assess polar bear status. Further refinement of the forecasting models will enhance information needed by several partners, including the U.S. Fish and Wildlife Service and the National Park Service. USGS will apply new molecular, physiological and other emerging technologies to better inform the Department's efforts to identify comprehensive conservation and mitigation actions for a broad range of high latitude ecosystems and fish and wildlife species. For further information, visit http://geology.usgs.gov/connections/blm/landscapes/climate_var.htm.

Sustainable Energy Development **\$727,000**

This program supports the USGS partnership with other Interior bureaus, state and local agencies, industry and private land owners in the Wyoming Landscape Conservation Initiative (WLCI), a program designed to maintain healthy

landscapes, sustain wildlife, and preserve recreational and grazing uses while developing natural gas energy in the Green River Basin. In this region, the landscape and habitats important for fish and wildlife population sustainability are undergoing rapid change in response to energy resource development. Reliance on aged data sets risks invalidating models and mitigation strategies. The role of the USGS in WLCI is to provide the science framework and information necessary for all partners to use in making decisions on mitigation, restoration and conservation efforts. This increase will allow USGS to support field work required to maintain current data and implement scientific studies evaluating various habitat treatments and monitor at-risk species such as sage grouse, song birds and pygmy rabbits. In 2010, USGS will build on 2009 accomplishments such as inventorying species and habitats, monitoring and assessing water resources, integrating energy resources and habitat data, and providing a robust data inventory and scalable climate change models. For further information, visit http://www.fort.usgs.gov/Research/research_tasks.asp?TaskID=2317.

General Increase for Cooperative Research Units **\$2,000,000**

This increase will enable the USGS to fill 23 vacant research scientist positions located in cooperative research units across the country. Research conducted at cooperative units is critical to the nation's interests in balanced energy development, climate change, invasive species, infectious diseases, and conservation of threatened fish and wildlife. Science capacity in the units enhances and expands graduate education and science training, as mandated in the Cooperative Units Act, and contributes to the science expertise that will be needed to meet future natural resources challenges on issues of national priority. For further information, visit <http://www.coopunits.org/cooptor/coopunits.html>.

