

USGS 2018 President's Budget Request

Natural Hazards

FY17 Continuing Resolution (CR) Annualized: \$138,748,000

FY17 Enacted Funding: \$145,013,000

FY18 Budget Request: \$118,111,000

Change from FY17 CR Annualized *: -\$20,637,000; -52 FTE **

Change from FY17 Enacted: - \$26,902,000; -52 FTE



USGS Natural Hazards Mission Area (NHMA) provides critical scientific expertise, products, warnings/advisories and data for a wide range of natural hazards, including earthquakes, landslides, volcanic eruptions, magnetic storms, coastal erosion and storm impacts. Working with its partners, cooperators, and customers, the NHMA delivers actionable assessments of these hazards, helps to develop effective strategies for achieving more resilient communities, and provides timely and accurate information to emergency managers and response officials, national policy makers, the media, and the public.

For 2018, the President's Budget request includes support to:

- Provide 24x7 earthquake reporting via the Advanced National Seismic System and Global Seismographic Network.
- Monitor the Nation's volcanoes to issue alerts and information about eruptive activity to the public and key partners.
- Deliver post-wildfire debris-flow hazard assessments for major wildfires to post-fire response teams; and
- Implement regional real-time forecasts of erosion and inundation due to coastal storms, including hurricanes.

Earthquake Hazards Program (EHP) / \$51,388,000 and 220 FTE (-\$9,000,000 and -12 FTE): The EHP focuses on the core priorities for earthquake loss reduction, which include: reporting on domestic and global earthquakes; delivery of earthquake impact and awareness products to emergency responders; maintenance of seismic hazard maps and associated databases and tools; assessing risks from earthquakes to the Nation's critical infrastructure; reducing uncertainties in those earthquake assessments; and communicating earthquake information to the public and to key stakeholders.

Program changes in the 2018 President's Budget request include:

- End USGS efforts to develop the *ShakeAlert* earthquake early warning system on the U.S. West Coast, stopping both internal efforts and external funding from USGS to *ShakeAlert* partners. This would suspend progress toward providing rapid warnings before strong earthquake shaking arrives in the states of California, Oregon and Washington.
- Reduce support for regional earthquake monitoring, hazard assessment and research in areas of lower seismic risk, including parts of the central and eastern U.S. and Alaska. This would delay the development of cost-effective risk mitigation actions by states, communities and businesses.
- Reduce efforts with partners and in communities to better communicate earthquake hazard, risk and safety.

Volcano Hazards Program (VHP) / \$22,432,000 and 135 FTE (-\$3,639,000 and -7 FTE): The VHP focuses on core capabilities to provide forecasts and warnings of hazardous volcanic activity at volcanoes in the United States with current monitoring networks; issuing forecasts, warnings and situational awareness of hazardous volcanic activity at volcanoes in Alaska and the contiguous United States, and producing updated volcanic hazard assessments for volcanoes in the contiguous United States. Program changes in the 2018 President's Budget include:

- Suspend implementation of the National Volcano Early Warning System, ending efforts to close known monitoring gaps on Very High Threat volcanoes in the contiguous United States and suspending the replacement of obsolete analog telemetry at monitoring networks in Alaska with modern digital telemetry and digital seismometers.
- Suspend further implementation and testing of a new lahar detection system in the major river drainages of Mount Rainier, Washington.
- Suspend maintenance of volcano monitoring networks, including in the Yellowstone region resulting in reduced awareness of changes within a large-caldera volcanic system. The Program would also suspend maintenance of monitoring networks on three active volcanoes in the Commonwealth of the Northern Mariana Islands.
- Reduce efforts to develop volcano hazard assessments, which inform monitoring activities and decision making for managing risks from eruptions, and significantly reduce progress toward completing hazard assessments for High- and Very-High Threat volcanoes.

* This fact sheet is based off of the change from the 2017 Continuing Resolution Annualized level.

** Full-time Equivalent

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Natural Hazards (continued)

Landslide Hazards Program (LHP) / \$3,531,000 and 22 FTE (\$0 and 0 FTE): The LHP focuses on the core priorities for landslide loss reduction, which include: providing debris-flow hazard assessments and early warning for areas burned by wildfire, in support of Interior and U.S. Forest Service post-fire response teams, the National Weather Service, and emergency management; expanding landslide alerting to selected non-burned areas; maintaining capability to respond to landslide crises; and continuing to develop and improve methods for landslide hazard assessment and situational awareness. There are no program changes proposed in the 2018 President's Budget for the LHP.

Geomagnetism Program / \$0 and 0 FTE (-\$1,884,000 and -15 FTE): The 2018 President's Budget would eliminate the Geomagnetism Program, a component of the multi-agency U.S. National Space Weather Program. This would reduce the accuracy of National Oceanic and Atmospheric Administration (NOAA) and U.S. Air Force forecasting of the magnitude and impact of geomagnetic storms. In addition to ending the provision of data provided to partner Federal agencies, the elimination of the program will also reduce the availability of geomagnetic information to the oil drilling services industry, the geophysical surveying industry, several international agencies, and electricity transmission utilities.

Global Seismographic Network (GSN) / \$4,986,000 and 10 FTE (-\$1,455,000 and -2 FTE): The GSN is a critical element of USGS earthquake alerting activities and supports other Federal agency missions: NOAA tsunami warning; National Science Foundation (NSF) basic research; and Department of Energy (DOE) and Department of Defense nuclear test treaty monitoring and research. Program changes in the 2018 request include:

- Suspend deployment of new seismic sensors procured by the DOE National Nuclear Security Administration, delaying the restoration of the network by replacing aged and degraded sensors. This would leave the network unable to provide uniform high-quality seismic data for earthquake alerts and situational awareness products, tsunami warnings, national security, hazard assessments and research.

Coastal-Marine Hazards and Resources Program (CMHRP) / \$35,774,000 and 188 FTE (-\$4,659,000 and -16 FTE): CMHRP data, research, and technical expertise provide managers with the information and tools to anticipate and reduce the risk of natural hazards and coastal change, and to assess and manage marine and coastal resources to meet current needs and respond to changing demands. CMHRP addresses a wide range of issues, in locations from the shallow waters of estuaries to the deep sea, in response to National needs for comprehensive, long-term coastal and marine science-based products from local to national scales. Program changes in the 2018 request include:

- Eliminate monitoring, research, and model development to forecast the impacts on coastal waters, ecosystems and fisheries due to ocean acidification and changing fluxes of nutrients, freshwater, and sediment from retreating glaciers. This would reduce the information and tools available to resource managers to anticipate and respond to stresses on commercial, recreational, and subsistence fisheries in the Gulf of Mexico and Gulf of Alaska.
- Reduce application of USGS mapping expertise to characterize marine habitats and sand resources required for beach nourishment in areas where operational costs are not provided by external partners.
- Reduce development of regional onshore/offshore elevation models for regional restoration of San Francisco Bay, the Pacific Northwest, the Northern Gulf of Mexico and Florida used for State and Federal coastal management and planning.
- Reduce development and delivery of assessments of coral reef and community vulnerability, including the impacts of changing reef structure on tourism, recreational and commercial fisheries, and hazard exposure of military and other infrastructure in Florida, Hawaii, and the Pacific and Caribbean territories.
- Reduce scientific activities in the Gulf of Mexico, Pacific and Atlantic regions, resulting in fewer and delayed products to support planning and implementation of regional coastal management, restoration, and risk reduction strategies.

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** Full-time Equivalent