

**STATEMENT OF JIM REILLY,
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BEFORE THE SUBCOMMITTEE ON INTERIOR, ENVIRONMENT, AND RELATED AGENCIES
HOUSE COMMITTEE ON APPROPRIATIONS
ON THE 2020 PRESIDENT'S BUDGET REQUEST
APRIL 3, 2019**

Chair McCollum, Ranking Member Joyce and members of the Subcommittee, thank you for the invitation to deliver this testimony regarding the FY 2020 Budget Request for the United States Geological Survey (USGS).

The 2020 budget request for the USGS is \$983.5 million. The budget funds scientific monitoring, research, and mapping to support management strategies for land, water, and species. The budget supports Landsat 9 Ground System Development to meet a fiscal year 2021 launch. The budget funds energy and mineral resource assessments, utilizing tools such as light detection and ranging (lidar) elevation mapping, geologic mapping, and airborne geophysics, to identify mineral resources that are of significant value to the United States, and can inform strategies to reduce critical mineral import dependence. The budget also applies science to safeguard communities against natural hazards. Additionally, the budget enables us to make investments in modernizing our facilities to conduct the best science.

Departmental Priorities and the 2020 Budget

The 2020 budget request for the USGS advances several Departmental priorities by supporting strategic investments in research, assessments, mapping, and land imaging.

Providing Science to Inform Land, Water, and Species Management

The budget maintains efforts to develop high-fidelity water forecasts and early warning systems for invasive species, wildlife disease, and adaptation planning. This work supports the management responsibilities of the National Park Service (NPS), Fish and Wildlife Service (FWS), Bureau of Reclamation (Reclamation), Bureau of Land Management (BLM), Bureau of Ocean Energy Management (BOEM), National Oceanic and Atmospheric Administration (NOAA), United States Department of Agriculture (USDA), United States Department of Defense (DOD), State, Tribes, and local water resource management agencies, and the International Boundary and Water Commission.

Delivering 21st Century Mapping and Land Imaging

The budget supports development of the next generation of Earth remote sensing products, maps, and data. This includes providing 3DEP-quality data for the U.S. by 2026, developing and launching Landsat 9 by fiscal year 2021, and updating the topographic maps for Alaska by 2022. This work supports BLM, Reclamation, NPS, Bureau of Indian Affairs (BIA), FWS, National Aeronautics and Space Administration (NASA), NOAA, DOD, Defense Logistics Agency (DLA), Federal Emergency Management Agency (FEMA), Natural Resources Conservation Service (NRCS), U.S. Forest Service, and State and local agencies.

Delivering Science for Energy and Mineral Resources

The 2020 budget enhances opportunities for energy security through research and resource assessments, particularly through efforts to update the estimate of undiscovered, technically recoverable hydrocarbon resources within Alaska's North Slope. In addition, the budget supports a modern understanding of the Nation's critical mineral endowment by investing in topographic, geologic mapping, and aeromagnetic data in areas with potential for hosting critical minerals. This work responds to Executive Order 13817 (A Federal Strategy to Ensure Secure and Reliable Supplies of Critical Minerals) and supports NPS,

BLM, BOEM, FWS, as well as DOD, USFS, and States and local governments.

Making Science Available to Safeguard Communities from Natural Hazards

The budget supports maintenance and development of early warning and enhanced monitoring systems for various natural hazards and delivering improved earthquake hazard assessments. This includes modernizing volcano monitoring networks with digital instrumentation; delivering post-wildfire debris-flow hazards assessments that inform landslide response plans; and expanding the data collection networks and flood inundations maps available to inform flood prediction and response. This work supports stakeholders across the Nation, including FEMA, NSF, NRC, the American Red Cross, and State and local governments.

Support for the DOI Reorganization

The 2020 request includes \$6.2 million for the USGS to support the reorganization of the Department of the Interior. On August 22, 2018, after working closely with stakeholders across the country on options to consolidate Interior's 49 different regions into common regions, the Department announced the designation of Interior's 12 new unified regions. Establishing unified regions across bureaus is the cornerstone of the reforms to improve Interior's service delivery to the public. Within each unified region, bureaus will focus work on the same resources and constituents and improve coordination across the Department. For the public, fewer regions make it easier to do business with Interior, particularly when it involves several bureaus or jurisdictions.

As part of the reorganization reforms, Interior will relocate some headquarters functions out West where the preponderance of Interior's assets and acres are located. Interior will also leverage the unified regional structure to implement smarter ways to conduct business using shared services and best practices across the Department. Efforts are focused on human resources, information technology, and acquisition services. Work is underway in 2019 to plan implementation, conduct analysis, and identify areas for collaboration within the regions.

Budget Restructure

The budget proposes to realign USGS mission areas to ensure that programs of related focus and practice are managed within the same mission area, including aligning land imaging programs with other mapping programs, and integrating adaptation and landscape science into the biological science programs of the USGS. The shift consolidates seven mission areas into five, which allows the USGS to eliminate several vacant positions and realign programs to leverage existing support staff. This reduces the number of USGS Associate Director positions from seven to five. This reduction of mission areas aligns with government-wide goals to improve efficiency and utilize resources and expertise that is readily available. The budget also contains a restructure in the Water Resources Mission Area that aligns programs to achieve integrated observation, understanding, prediction, and delivery of water science information to the Nation. The Ecosystems Mission Area is also restructured in the budget to align the budget into the framework of their lines of work.

Ecosystems Mission Area

Through the Ecosystems Mission Area, the USGS provides scientific information and decision support to meet Interior's shared responsibility for land and species management, reduce risk of invasive species and wildlife diseases, and fulfill treaty obligations with Tribes. The USGS helps protect the Nation's fish and wildlife heritage by bridging the gap between science and management for harvested species, at-risk species and species of management concern. The USGS works with many Federal, State, local, and Tribal partners to sustain hunting, fishing, and wildlife-related recreational activities of the American public that contribute \$144 billion and 480,000 jobs to the U.S. economy (*2017 National Recreation Economy Report, Outdoor Industry Association*). The USGS identifies threats and designs conservation measures to preclude the need for listing species as endangered or threatened; help listed species recover;

prevent or minimize damage from invasive species and wildlife disease outbreaks; and apply decision science so that management and policy actions are transparent and durable. Ecosystems sciences are essential for making cost-effective resource management decisions for the Nation's lands and waterways; providing decision makers with regional and nationwide monitoring of key environmental indicators for terrestrial, freshwater, and marine habitats and the species that utilize those habitats. Data holdings and observation networks maintained by the Ecosystems Mission Area are vital to understand the status, trends, and health of our Nation's natural resources and to support public land and resource management decisions. Many of these databases include decades-long records of observations, collected under strict standards of quality assurance and quality control.

The 2020 budget request for Ecosystems is \$141,049,000. This request maintains research programs in biosecurity, smart energy development; support for America's hunting and fishing heritage; and science to inform Interior resource management decisions for trust lands and species. In addition, the budget proposes to restructure to four programs, including incorporating the Climate Adaptation Science Center and Climate R&D. This restructure focuses USGS biological and ecological capabilities on providing science for natural resource management decisions by Federal, State, and Tribal agencies, with emphasis on Department of the Interior trust responsibilities for lands, species, and priority ecosystems.

Energy and Mineral Resources Mission Area

Energy and mineral resources are vital components of the Nation's economy. The United States is currently 100 percent dependent on foreign nations for 20 different mineral commodities, including several that are critical minerals for national security and economic growth. The Nation depends on energy to power homes and businesses, as well as minerals to manufacture products such as cell phones, laptops, and cars and renewable energy technologies. As demands for energy and mineral resources grow, the USGS research and assessments become increasingly critical for understanding the occurrence, quality, supply, and use of national and global resources. The in-depth science provided by the USGS Energy and Mineral Resources Mission Area informs strategic, evidence-based economic and geopolitical decisions and facilitates responsible natural resource development. The Energy and Mineral Resources Mission Area conducts scientific research, completes energy and mineral resource assessments, and compiles information and statistics on the worldwide supply and flow of minerals, including critical minerals, and materials essential to our economy and national security.

The 2020 budget request for Energy and Mineral Resources is \$86,072,000. This request supports a focus on core activities, which include: energy and mineral resource assessments; research on undiscovered, technically recoverable oil and gas resources, as well as gas hydrates, geothermal, wind, and other energy sources; and compiling information and statistics on the worldwide supply and flow of minerals and materials essential to our economy and national security. In addition, the budget requests an increase for the Earth Mapping Resources Initiative (Earth MRI), an initiative to assess the Nation's critical mineral resources to reduce mineral import dependence, strengthen national security, and generate economic and social benefits through products and services. The budget also requests an increase to continue a multi-year magnetotelluric (MT) survey of the U.S.

Natural Hazards Mission Area

The USGS provides scientific information to emergency responders, policy makers, and the public to reduce losses from a wide range of natural hazards, including earthquakes, floods, hurricanes, landslides, tsunamis, volcanic eruptions, wildfires, and geomagnetic storms. Working with its partners, cooperators, and customers, the USGS delivers actionable assessments of these hazards and helps to develop effective strategies for achieving more-resilient communities. The USGS is the Federal agency responsible for monitoring and notification of earthquakes, volcanic activity, landslides and coastal erosion in the United States. For many other hazards, the USGS directly supports the warning responsibility of the National Oceanic and Atmospheric Administration. To achieve its primary mission, and to fulfill its responsibilities for loss and risk reduction, the USGS Natural Hazards Mission Area develops, delivers,

and applies several components of hazard science: observations and targeted research underpin assessments, forecasts, warnings, and crisis and disaster response. The research, data, products, and detailed information that the USGS provides enables Federal, State, Tribal, local, and private-sector end-users to better understand, anticipate and reduce their risks associated with natural, technological, and environmental hazards, and enables science-based decisions that effectively enhance resilience and reduce impacts from those threats.

The 2020 budget request for Natural Hazards is \$145,025,000. This request supports the mission essential and operational functions of hazard warning and disaster reduction. Those activities include: hazard alerting for earthquakes and volcanic eruptions, and the associated monitoring networks; hazard response activities (for all hazards, including for landslides and coastal inundation); hazard assessment activities that are currently integrated into risk reduction activities (e.g., for building codes, land use planning, etc.); and applied research projects that support hazard warning, response, and assessment activities. This budget request includes an increase that would deliver improved earthquake hazard assessments, including improvements to the National Seismic Hazard Model and a next-generation seismic hazard map for Alaska. In addition, the budget maintains monitoring of the Earth's magnetic field through ground-based magnetic observatories that provide geomagnetic monitoring data.

Water Resources Mission Area

The USGS monitors and assesses the amount and characteristics of the Nation's water resources, assesses sources and behavior of contaminants in the water environment, and develops tools to improve management and understanding of water resources. The information and tools provided by the USGS allow first responders, the public, water managers and planners, policy makers, and other decision makers to: minimize loss of life and property as a result of water-related natural hazards, such as floods, droughts, landslides, and chemical spills; manage freshwater, both above and below the land surface, for domestic, public, agricultural, commercial, industrial, recreational, and ecological uses; protect and enhance water resources for human health, aquatic health, and environmental quality; and contribute to the effective development and conservation of the Nation's water resources for the benefit of present and future generations. The cooperative matching funds (CMF) program provides funding to partner with nearly 1,600 local, State regional, and Tribal agencies to monitor and assess water in every State, protectorate, and territory.

The 2020 budget request for Water Resources is \$179,922,000. This includes a total of \$57,710,000 of CMF across the mission area. The budget sustains the National Streamgaging Network and provides capacity to research water use, conduct studies on the use, quantity, and quality components of water availability, and develop regional-scale models and model-based decision support tools. In addition, the budget proposes to restructure the Water Resources Mission Area to two programs, the Water Resources Availability Program and Water Observing Systems Program, to achieve integrated observation, understanding, prediction, and delivery of water science and information to the Nation.

Core Science Systems Mission Area

As the lead civilian mapping agency for the Nation, the Core Science Systems (CSS) Mission Area conducts detailed surveys and distributes the resulting high-quality and highly-accurate topographic, geologic, hydrographic, and biogeographic maps and data. USGS products and services are foundational (i.e. underlying base maps and data) and support the conduct of USGS and Interior science. Mapping accuracy enabled by cutting-edge technologies allows precise planning for critical mineral assessments; energy development; transportation and pipeline infrastructure projects; urban planning and development, flood prediction at regional, local, and neighborhood scales; emergency response; and hazard mitigation. In addition, the CSS delivers remote sensing observation capacity, data, and research to inform land and resource managers while improving understand of how landscapes and associated natural resources are changing at global and regional scales.

The 2020 budget request for Core Science Systems is \$207,193,000. This request funds priority high-resolution elevation, hydrographic, geologic, and biogeographic mapping activities; remote sensing satellite operations; remote sensing imagery availability; land cover change and classification applications; high performance computing and modeling activities; science data analysis and synthesis; and geoscientific asset preservation (e.g., drilling cores and rock samples). With the proposed budget, these programs would continue to coordinate geospatial data requirements with partners and leverage Federal funds with matching partner funds to eliminate duplication (i.e., pay to collect data once and use the results many times over for multiple applications). The USGS would also continue to develop the Landsat 9 ground and flight systems in collaboration with the National Aeronautics and Space Administration (NASA) to meet a planned launch date in fiscal year 2021.

USGS Science Support

The Science Support Mission Area provides the core functions that make it possible for the USGS to conduct science. These business and information services and systems include acquisitions and grants, finance, internal controls, communications, budget and performance, monitoring and evaluation of science quality and integrity, information assurance, information management and technology services, and human capital. Science Support also includes the executive leadership and management that provide guidance, direction, and oversight for all of the USGS science activities. The 2020 request continues support for the reorganization of the Department of the Interior with funding to stand up the unified regional boundaries, relocate staff as necessary, and improve operations through the use of technology, shared services, and consistent practices.

The 2020 budget request for Science Support is \$102,910,000. This request supports core activities of the USGS's executive, managerial, and accounting activities, information management and technology, and support services. This includes providing essential support services (e.g. acquisition and grants; finance; information management and technology; human capital; etc.); maintaining support for emerging technology such as the USGS Cloud Hosting Solutions; and improving the design of data management and storage capabilities that will allow scientists to access data and analytical tools anywhere.

USGS Facilities

The Facilities Mission Area provides safe, functional workspace to accomplish the bureau's scientific mission with an emphasis on the mission driving facility needs. Funding supports rent; basic facility operations; security; facility maintenance, in compliance with Federal, State, and local standards; and provides a safe, sustainable working environment for employees, visiting partners, and customers.

The 2020 budget request for Facilities is \$121,296,000. This request maintains an emphasis on optimizing facility locations and usage and supports deferred maintenance and capital improvement projects. In addition, the request continues support for the move out of Menlo Park to Moffett Field. A signed cooperative agreement with the Colorado School of Mines for a new building to support research, furthering the Interior's goal of modernizing infrastructure and reducing the facilities footprint.

Conclusion

In summary, this budget request makes strategic and tough decisions on how the USGS can continue to serve the American people by providing critical science and information to stakeholders. Through the bureau's diverse scientific expertise, the request ensures the USGS can continue to support high-priority research and integrated assessments of natural resources, the stewardship of public lands and waters; and the delivery of natural hazard science to protect public safety, health, and economic prosperity. Through efforts to restructure and reorganize, the request strives to more efficiently align resources and make USGS programs easier to track, explain, and build associations with. On behalf of the USGS, thank for this opportunity to testify today. I would be happy to answer any questions you may have.