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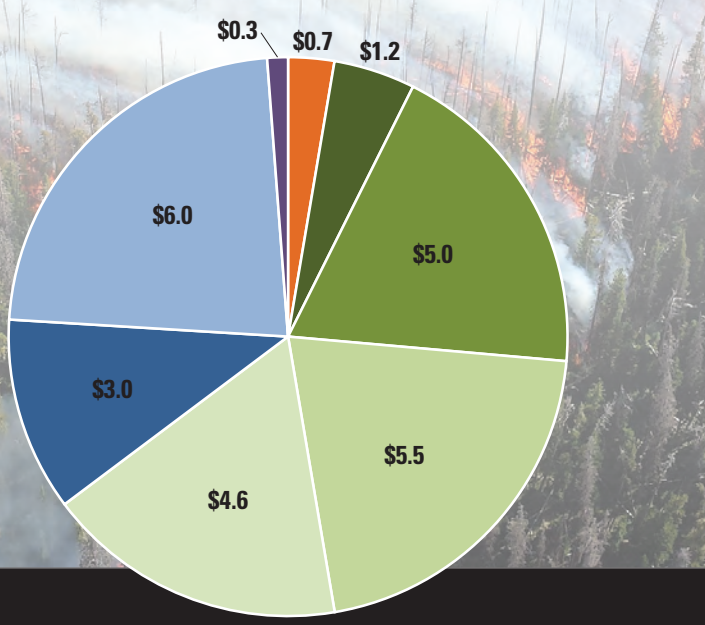
2022 Emergency Assistance Act—USGS Recovery Activities

USGS Role in Recovery

The Extending Government Funding and Delivering Emergency Assistance Act (Public Law 117-43) was enacted on September 30, 2021. The U.S. Geological Survey (USGS) received $26.3 million in supplemental funding to repair and replace facilities and equipment, collect high-resolution elevation data, and complete scientific assessments to support direct recovery and rebuilding decisions in areas affected by declared disasters—earthquakes, wildfires, hurricanes, and floods—that occurred between 2019 and 2021.



Earthquake Response ($0.7M)

Equipment Repairs and Hardening in California, Puerto Rico, and Utah

- Portable seismic equipment is used to improve the accuracy of earthquake characterization (location, depth, and magnitude frequency) in aftershock sequences and to maintain critical situational awareness.
- Seismic deployments in California, Puerto Rico, and Utah earthquake disasters (2019–20) and depleted USGS stock of available portable sensors revealed equipment vulnerabilities that can cause sensors to not collect high-quality real-time data.
- Funding will be used to replace and harden portable seismometer kits to decrease failure in the field and subsequent data loss. Datalogger upgrades will have more reliable connectivity and reduce support software requirements.

U.S. Department of the Interior
U.S. Geological Survey

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Wildfire Response ($16.3M)

Water Gage Network—Equipment Repair and Hardening and Data Restoration

- Wildfires in California and Oregon damaged or destroyed gages, field instruments, and telecommunication infrastructure. Equipment reserves were depleted to return affected gages and sensors to operational status. Funding will be used to replenish reserves and harden specific gages.
- Funding will also be used to complete field measurements and hydraulic-modeling work to re-establish accurate streamflow information in burned areas of California with suspected channel alterations or service degradation.
- Site data restoration will ensure proper and timely forecasts to protect lives and property and track the hydrologic recovery of the wildfire-altered watersheds.

Advanced National Seismic System (ANSS)—Equipment Repair and Hardening

- ANSS networks, operated by the USGS and by university and State partners, perform critical functions of analyzing and distributing seismic data and information on earthquakes to emergency management communities and the public.
- Fires destroyed or damaged instruments and supporting infrastructure at multiple ANSS stations in California. In some cases, critical telecommunication relays were compromised.
- Funding will be used to replace fire-damaged earthquake monitoring equipment and infrastructure and harden earthquake monitoring sites within declared disaster areas.

Lidar for Washington's Wildfire-Affected Areas

- The goal of the 3D Elevation Program is to complete the first-ever baseline of consistent high-resolution elevation data to support a range of critical applications including hazards response, recovery, and mitigation.
- Funding will be used to collect and process light detection and ranging (lidar) data at priority locations affected by wildfires in Washington, including reservation and trust lands of several Tribes. USGS partner agencies are providing additional funding to complete data coverage of the affected areas.
- Lidar data will be used in wildfire risk mapping, Tribal and Federal forest management planning, and other recovery efforts.

A false-color image of a landslide in Washington State, 2019, captured with an average of 2 points per square meter. Image credit: U.S. Geological Survey.

- The effects of wildfire in California (Caldor, Dixie, and KNP Complex Fires) and Washington State (Cedar Creek and Muckamuck Fires) may persist for years as vegetation regrows and landscapes recover.
- Funding will be used to address the needs of land and emergency management agencies at the Federal, Tribal, State, and local levels by providing new information to identify information gaps, support recovery planning, and aid in recovery and rebuilding decisions.
- Funding will also be used to focus on data and information for vegetation recovery for resource management, debris-flow hazard assessments in priority high-risk areas for recovery and emergency planning, and water flow and quality modeling water-supply protection.

Hurricane Response ($9.0M)

Equipment Repair and Hardening and Data Restoration

- Hurricanes Delta, Ida, Laura, Sally, and Zeta, and Tropical Storm Eta damaged or destroyed gages and storm sensors in New Jersey, Pennsylvania, New York, and Louisiana. Equipment reserves were depleted to return affected gages and sensors to operational status. Funding will be used to replenish reserves and harden specific gages.
- Flooding from Hurricane Ida caused suspected channel alterations or service degradation at sites in New Jersey, New York, and Pennsylvania. Field measurements and hydraulic-modeling work will be completed to re-establish accurate streamflow information.
- These data restorations are critical to ensure proper and timely forecasts to protect lives and property and track the hydrologic recovery of the storm-altered watersheds.

Coastal Assessments and Risk Forecasts from Hurricane Ida

- As Hurricane Ida made landfall in the Gulf of Mexico, Louisiana's protective barrier islands and marshes deteriorated and shifted landward. After the storm moved inland, it stalled over New York City, where stormwater management infrastructure was overwhelmed and resulted in extensive flooding of streets, buildings, subways, and other public spaces.
- These local and immediate effects complicate the efforts of community and public land managers responsible for protection, planning development, and recovery efforts.
- Funding will be used to update data and analysis in Louisiana and New York to accurately forecast flooding and erosion hazards, improving future storm-response operations, and to address resilience, including areas with environmental justice concerns.

Long Island Expressway was shut down because of flash flooding during Hurricane Ida.
Photo credit : Tommy Gao, licensed for use under the Creative Commons 4.0 International license.

Severe Storm Response ($0.3M)
Equipment Repair

- The severe winter storm that affected Texas in February 2021 caused major water damage at two USGS facilities. Funding will be used to repair or replace offices, equipment, and instruments destroyed by flooding.
- Flooding from severe storms in Hawaii, Arkansas, and Tennessee destroyed gages and sensors. Equipment reserves were depleted to return affected gages and sensors to operational status.
- Funding will be used to replenish reserves.

Contact the USGS Supplemental Oversight Team for more information:
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For more information please visit https://www.usgs.gov/supplemental-appropriations-for-disaster-recovery-activities

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