



## **Statement on Federal Investment in Earthquake Science**

A strong, sustained investment in federal geoscience programs, specifically earthquake science, enhances national security, strengthens our global and economic competitiveness, supports resilient communities and cultivates a highly skilled workforce. Basic geoscience and earth science research help the nation monitor and prepare for earthquakes and other natural disasters, understand and protect the environmental health of the planet, and locate and use natural resources like oil and natural gas effectively.

The Federal Government supports geoscience and seismological programs in several agencies:

### **The United States Geological Survey**

- Produces national and urban seismic hazard maps that inform building codes, gauge risk assessments and shape public policy through the Earthquake Hazards Program.
- Produces near real-time maps of ground motion and shaking that are used by federal, state and local organizations and private institutions for post-earthquake response and recovery through the ShakeMap program.
- Sustains global data collection systems that serve a wide range of national and international needs, such as the Global Seismographic Network, operated jointly by the National Science Foundation (NSF) and the USGS, and the Landsat satellite missions which provide multispectral imagery of the Earth's surface used in assessing natural hazards.
- Oversees the Advanced National Seismic System (ANSS), which includes a national backbone network and 15 regional networks operated by USGS and its partners, to inform emergency response personnel with real-time information and also provide key input into the creation of the seismic hazard maps.
- Manages external grants for earthquake research to provide earth science data and information essential to mitigate earthquake losses, better characterize earthquake sources and better inform the public about earthquakes and earthquake safety.

### **The National Science Foundation (NSF) Geosciences Directorate:**

- Provides 64 percent of all funding for geoscience research at U.S. universities.
- Supports research programs and grants that aim to understand and mitigate the effects of geologic hazards, such as earthquakes, landslides, volcanic eruptions, floods and drought.

**National Aeronautics and Space Administration's (NASA) Earth Science Program:**

- Conducts and sponsors research in fundamental science to better understand the entirety of the Earth's environment using long-term global observations via satellite and airborne missions.

**National Oceanic and Atmospheric Administration (NOAA), the National Institute of Standards and Technology (NIST) and the Federal Emergency Management Agency (FEMA):**

- Support research and applications related to Earth sciences and the connections between the solid earth, oceans and atmosphere.
- Support additional earthquake recording and analysis assets with a specific focus on tsunami warning, through NOAA's National Weather Service.
- Contribute estimates of potential earthquake losses (property and lives) through FEMA's HAZUS and RiskMap programs.

**Department of Energy's (DOE) Geothermal Technologies Office:**

- Uses seismic data analysis to improve the quality and quantity of plausible drilling targets for the exploration and extraction of geothermal resources.

**Department of Defense (DOD):**

- Uses its seismic research program for support of national requirements for monitoring nuclear explosions and nuclear testing treaty compliance.
- Operates the components of the GPS global navigation satellite system, which provides critical data for natural hazards monitoring and assessment.
- Maintains the Air Force Research Laboratories seismic technologies program.

**Department of Energy (DOE)/National Nuclear Security Administration (NNSA):**

- Performs seismic research as part of its work to improve national and international capabilities to monitor nuclear weapons development and testing, as well as nuclear testing treaty compliance.

**The Seismological Society of America urges Congress to help the nation prepare for natural disasters, study natural resources and enhance our national security by maintaining full funding for these geoscience and seismic science programs throughout the Federal Government.**

*Approved by the SSA Board of Directors, February 2018*