PROMOTING A HAZARD READY NATION

USGS Earthquake Information Tools for Public Safety

EARTHQUAKE INFORMATION TOOLS

Protecting lives is at the core of the U.S. Geological Survey's (USGS) mission. With its suite of earthquake information tools and data products, USGS uniquely contributes to public safety through the rapid distribution of vital earthquake information to emergency managers. The USGS Earthquake Information Tools for Public Safety Project offers critical training, resources, and hands-on activities to help emergency managers prepare for, mitigate the impacts of, respond to, and recover from earthquakes.

USGS Earthquake Information Tools Workshop

USGS—along with a Focus Team of emergency managers from government and critical infrastructure—is developing a modular, half-day workshop designed to enhance emergency managers' understanding and operational use of USGS earthquake information tools before, during, and after earthquakes. This interactive workshop will empower participants with:

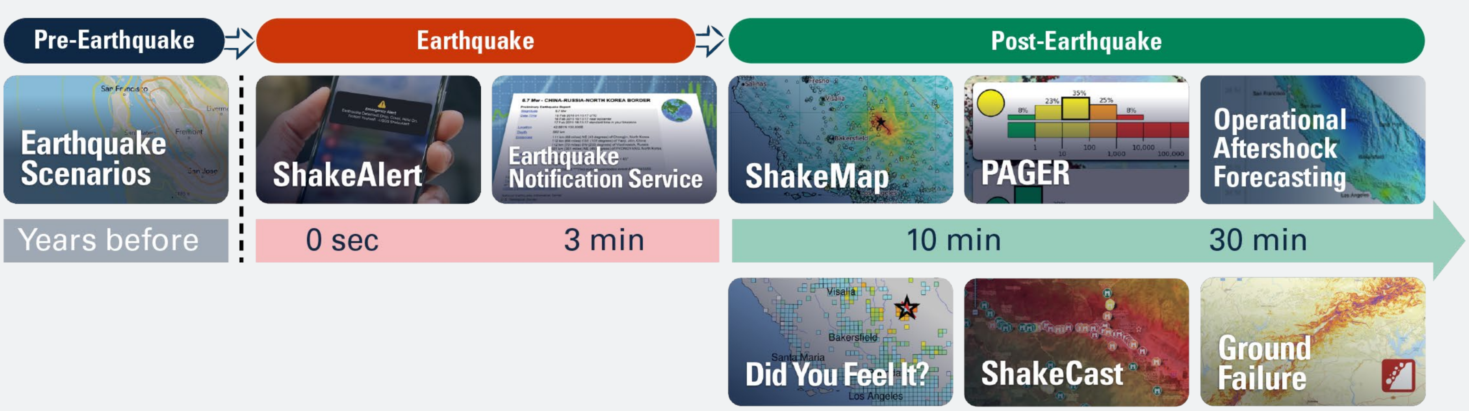
- Awareness of the tools and their value across the emergency management cycle;
- Knowledge of how to access, receive, and interpret USGS earthquake information from these tools, as well as their current limitations; and
- Important opportunities to inform refinements to the tools in ways that reflect emergency management needs.

Using recent earthquake examples and scenarios, the workshop will actively engage participants in ways they can use one or more USGS earthquake information tools to address earthquake-related hazards.

Hazard Ready Nation is a unified approach to risk communication, research, and product development that ensures the delivery of actionable, easily accessed information, products, and services that enable individuals and communities to make impact-based decisions about:

- where hazards may occur in the future, based on where they have occurred in the past;
- the potential consequences of these hazards; and
- actions that could be taken to reduce or avoid harm from these hazards.

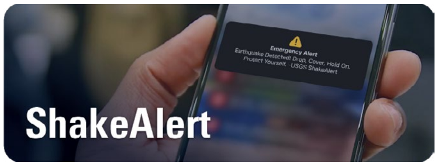
USGS Earthquake Information Tools Timeline



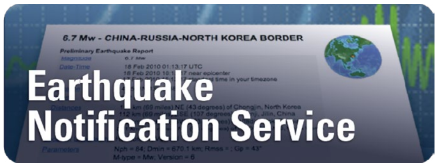
ShakeAlert
USGS 02.2026

ShakeAlert HRN HAZARD READY NATION

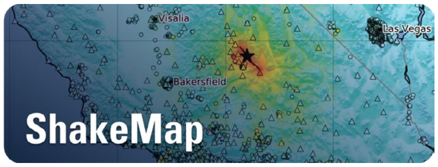
USGS Earthquake Information Tools



ShakeAlert® rapidly detects earthquakes, estimates their size and intensity, and sends alerts to people and automated systems—often seconds before strong shaking arrives.

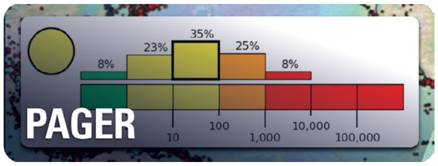


The Earthquake Notification Service is a free subscription that sends automated email or SMS alerts minutes after earthquakes occur in a user-defined area and above chosen magnitude levels.

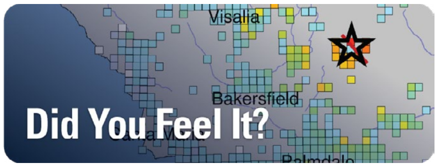


ShakeMap® delivers maps of ground motion and shaking intensity for significant earthquakes worldwide, using seismic recordings and ground-motion models to estimate impacts.

ShakeCast® is software that uses ShakeMap data and fragility models to assess potential damage, delivering early alerts and reports to critical infrastructure operators.



PAGER rapidly estimates casualties and economic losses for damaging earthquakes worldwide, using ShakeMap shaking data and delivering public impact assessments within minutes.



Did You Feel It® gathers reports from people who felt an earthquake to map shaking intensity, helping refine ShakeMap alongside seismic station data.

Aftershock Forecast estimates how many aftershocks may occur and the likelihood of future earthquakes, from felt events (M3+) to potentially damaging (M5+) and larger earthquakes (M6–7+).

The Earthquake Scenarios tool creates realistic hypothetical ShakeMap and PAGER impacts to support emergency exercises and analyze risks to buildings, lifelines, utilities, and transportation.

Ground Failure tools use earthquake data, combined with soil, slope, and geologic information, to estimate the likelihood and extent of landslides and liquefaction impacts.

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