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DHS S&T and Central United States Earthquake Consortium Partnership Promotes Community Resilience



Homeland Security

Science and Technology

CENTRAL U.S. SEISMIC ZONES HAVE POTENTIAL TO PRODUCE DEVASTATING EARTHQUAKES

According to the United States Geological Survey, the Central United States has a 25-40 percent probability that an earthquake could occur with a magnitude 6.0 or greater in any 50-year time period. The last major series of earthquakes that struck in the area occurred between 1811-1812 near New Madrid, Missouri, when three 7.5-8.0 magnitude earthquakes deformed the ground along the Mississippi River and shaking was felt as far away as Washington, D.C. Based on analysis performed by the University of Illinois Mid-America Earthquake Center, an earthquake of an equal magnitude occurring today could result in great loss of life and billions of dollars in economic losses. Taking proactive risk reduction measures may reduce the devastating impact of another large earthquake.

STRATEGIES TO MITIGATE EARTHQUAKES APPLY TO ANY DISASTER SCENARIO

One step towards building resilient communities that can overcome disasters like an earthquake is to have interoperable systems that improve situational awareness and support decision-making, analysis, and communications.

Improving an emergency manager's (EM) ability to see the big picture and make better decisions about allocating resources in the event of a disaster will help EM's make better decisions.

The Department of Homeland Security Science and Technology Directorate (S&T) and the Central United States Earthquake Consortium (CUSEC) have partnered to develop nationally deployable decision support tools that create, enhance, and report out on the data and make it available to state and local EMs to manage operations, allocate resources, and mitigate hazards.

Established in 1983 and funded by the Federal Emergency Management Agency, CUSEC seeks to reduce deaths, injuries, property damage and economic losses resulting from



earthquakes in the Central U.S. CUSEC is a partnership of eight member states (Alabama, Arkansas, Illinois, Indiana, Kentucky, Mississippi, Missouri, and Tennessee), 10 associate states (Georgia, North Carolina, Iowa, Ohio, Kansas, Oklahoma, Louisiana, South Carolina, Nebraska, and Virginia) and the federal government. CUSEC supports multi-state response and recovery planning, resource planning, public education and awareness, mitigation, and research associated with earthquake preparedness.

A TECHNOLOGY ROADMAP

The S&T and CUSEC partnership focuses on a long-term vision to better equip the Central U.S. with decision support technology that can be applied to earthquakes and other hazards.

In 2017, S&T and CUSEC signed a memorandum of agreement (MOA) to develop, test, and evaluate technology solutions to enhance the nation's public safety and homeland security missions. A component of this MOA is to develop a technology roadmap that outlines solutions to enhance regional information sharing, decision support, and overall situational awareness. The roadmap will include participation from member and associate states, as well as federal partners, to develop incident decision support technology solutions, activities, and materials, which could include analytical tools, map sources, educational materials, and training that support emergency response operations. The goal is to provide responders in the CUSEC region with the flexibility, skill sets, and tools necessary to plan, manage, coordinate, and communicate critical information during small- and large-scale events in real-time.

RECENT ACTIVITY

S&T and CUSEC have recently created a technology committee that will gather lessons learned following the Shaken Fury 2019 exercise and will identify the operational gaps and information needs facing EMs. Recognizing that communities differ in the way they manage information, S&T and CUSEC will focus on extending existing capabilities to seamlessly share information necessary for preparedness, response, and recovery. By increasing the availability of decision support technology to first responders, EMs, and other entities, S&T and CUSEC will bolster community resilience and shape how communities react to local emergencies in the future.

