

Using HAZUS^{MH} to Promote Seismic Safety

HAZUS-MH is a valuable tool for risk and emergency managers at all levels of government and the private sector. The earthquake model has been used to carry out National studies of annualized earthquake loss, to develop scenarios for catastrophic planning, to support evaluations of seismic safety of hospitals and other essential facilities, and to support risk assessments and mitigation planning in seismically vulnerable regions of the United States.

HAZUS-MH Used in Support of Utah Seismic Safety Legislation

The State of Utah took important steps in reducing the vulnerability of schools to damaging earthquakes, as well as addressing its Unreinforced Masonry (URM) building stock. HAZUS-MH played an important role in these initiatives. Specifically, HAZUS-MH was used to focus on the vulnerability of Utah schools and to estimate losses and potential casualties from scenario earthquakes in a region that is among the most susceptible in the U.S. to seismic activity.



Most of the population of Utah lives just west of the Wasatch Mountains in the north central part of the state. This view shows the region with the cities of Ogden and Salt Lake City in the foreground.

The Wasatch Front region of Utah is an extremely active seismic zone that experiences approximately 700 earthquakes per year. Though many of these temblors are less than 3.0 on the Richter magnitude scale, a 7.0 quake will occur roughly once every 350 years along the central portion of the Wasatch Fault. The last large quake along the fault occurred between 400 and 600 years ago.

HAZUS-MH Used to Generate Scenarios for Catastrophic Planning

HAZUS-MH has been used extensively for scenario development in support of the Federal Emergency Management Agency's (FEMA's) catastrophic earthquake planning initiatives in the New Madrid Seismic Zone and Northern California. The earthquake scenarios detailed loss estimates that were used in a series of State workshops in the Central United States. Map-based templates capture essential information that are critical to response planning, including geographic areas that have sustained the greatest damage, shelter requirements, displaced households, and exposure of lifelines to ground shaking and soil failure.

HAZUS-MH information: www.fema.gov/plan/prevent/hausus

DATA SOURCES: Top: HAZUS-MH (Loss Estimation Software developed by FEMA); State of Utah. Bottom: HAZUS-MH (Loss Estimation Software developed by FEMA) Image: National Aeronautics and Space Administration (NASA) – The 3-D perspective view was generated using topographic data from the Shuttle Radar Topography Mission (SRTM), a Landsat 5 satellite image mosaic, and a false sky. Topographic expression is exaggerated four times.



FEMA

