HAZUS-MH

ESTIMATING POTENTIAL LOSSES FROM DISASTERS

HAZUS-MH is a nationally applicable standardized methodology that estimates potential losses from earthquakes, floods, and hurricane winds. HAZUS-MH was developed by the Federal Emergency Management Agency (FEMA) under contract with the National Institute of Building Sciences (NIBS).

PROVIDING ESTIMATES OF HAZARD-RELATED DAMAGE

HAZUS-MH is FEMA's risk assessment and loss estimation tool that helps States, communities, and businesses prepare for, mitigate the effects of, respond to, and recover from a hazard event. HAZUS-MH provides estimates of hazard-related damage before a disaster occurs and takes into account various impacts of a hazard event.

Potential loss estimates analyzed by HAZUS-MH include:

- Physical damage to residential and commercial buildings, schools, critical facilities, and infrastructure;

- Economic loss, including lost jobs, business interruptions, repair and reconstruction costs; and

- Social impacts, including estimates of shelter requirements, displaced households, and population exposed to scenario earthquakes, floods, and hurricanes.

USING GIS TECHNOLOGY

HAZUS-MH can quantify the risk for a study area of any size by using geographic information system (GIS) technology to combine hazard layers with national databases, and applying standardized loss estimation and risk assessment methodology. The GIS-based environment allows users to create graphics to help communities visualize and understand their hazard risks and possible solutions. The nationwide databases built into HAZUS-MH include datasets on demographics, building stock, essential facilities, transportation, utilities, and high-potential-loss facilities.

HAZUS-MH METHODOLOGY

HAZUS-MH can estimate losses from earthquakes, floods, and hurricane winds by using:

- Ground motion and ground failure information to calculate losses for earthquakes

- Flood frequency, depth, discharge, and velocity for floods

- Information on wind pressure, windborne missiles, and rain for hurricane winds

HAZUS-MH HELPS BUILD SAFER AND STRONGER COMMUNITIES

HAZUS-MH can help States and communities:

- Anticipate the scope of disaster-related damage

- Identify areas at risk from hazards that may require special land-use or building codes

- Assess the vulnerability of housing and essential facilities

- Estimate potential losses from specific natural disasters

- Prioritize mitigation projects

- Educate communities about their risk and how to reduce it

- Develop damage prevention, preparedness, response, and recovery plans

INTEGRATED RISK ANALYSIS

HAZUS-MH can perform multi-hazard analyses by combining the results from earthquake, flood, and hurricane wind models to provide integrated multi-hazard reports and graphs. HAZUS-MH also contains a third-party model that provides access and operational capability to a wide range of natural, manmade, and technological hazard models (nuclear and conventional blast, radiological, chemical, and biological) that can supplement the natural hazard loss estimation capability.

HAZUS-MH USER GROUPS SUPPORT MITIGATION PLANNING

HAZUS-MH User Groups unite the resources of public and private organizations to reduce the risk of loss and respond to natural hazards. By pooling the talents of GIS professionals, risk managers, contingency planners, natural hazard experts, and elected officials, User Groups use HAZUS-MH to develop hazard mitigation plans as well as identify and execute mitigation projects. User Groups throughout the country benefit from group collaboration and the sharing of information, data, and software usage tips.

For information about forming hazard-specific or multi-hazard HAZUS-MH User Groups, please consult *How to Start a User Group* (FEMA 404), available online at: http://www.fema.gov/plan/prevent/hazus/hz_users.

INFORMATION AND TRAINING

FEMA provides many HAZUS-MH publications free of charge from the FEMA Distribution Center as well as online. *HAZUS: What Could Happen* (FEMA 410) is a video overview of how communities are using HAZUS-MH in planning for earthquake, wind, and flood loss mitigation; emergency preparedness; response; and recovery. *Using HAZUS-MH for Risk Assessment: How-To Guide* (FEMA 433) helps users prepare standardized, scientifically based risk assessments with HAZUS-MH software.

Additional HAZUS resources are available online at: http://www.fema.gov/plan/prevent/hazus/hz_resources.

Regularly scheduled HAZUS-MH training classes are held at FEMA's Emergency Training Institute (EMI) located on the National Emergency Training Center campus in Emmitsburg, Maryland. Classes range from Basic to Advanced and can benefit emergency managers, GIS specialists, geologists, state and local planners, and others involved in assessment activities. For upcoming training dates, go to: http://www.fema.gov/plan/prevent/hazus/hz_training.

Many States also offer HAZUS training. For more information, please contact the HAZUS Regional Point of Contact (POC) in your area or check online at: http://www.hazus.org/NEW_HAZUSorg/HAZUSorg_TRAINING.

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