

# National Level Exercise 2011 (NLE 11)

## Overview

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February 2011



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# Scope & Focus

- Domestic, non-terrorism; catastrophic earthquake in the New Madrid Seismic Zone [NMSZ]
  - TOPOFF/NLE history
  - Exercise Type/Expectations: Capstone Functional Exercise (FE) that may include full-scale elements
  - Summer/Fall: Recovery exercises at state and National levels



# Participants

- NMSZ States: Alabama, Arkansas, Illinois, Indiana, Mississippi, Missouri, Tennessee, Kentucky
  - NMSZ supporting states
- Federal HQs & operation centers and national assets
- FEMA Regions: IV, V, VI, VII
- Federal Interagency
- Private Sector/VOAD/Faith Based (differing levels of involvement during different actives, not just the FE)
- International participation and observation



# Background

- Concept for state exercises created in 2006 as a follow-on to the FEMA Catastrophic Planning Initiative
- Catastrophic NMSZ earthquake scenario originally scheduled as NLE 2010 scenario
- The 8 NMSZ states were planning for catastrophic earthquake exercises in 2011 and asked that the NLE 2010 catastrophic earthquake scenario be moved to 2011 to align with the states' exercises
- Independent State earthquake exercises would occur in 2011
- Scenarios for NLE 2010 and NLE 11 switched
- Planning for NLE 11 began at state level well before Federal level
- Unique aspects of NMSZ events versus west coast/other seismic zones
- USGS and Mid Atlantic Earthquake (MAE) Center



# What's Different?

- NLE 11 will have many unique facets
  - Follow-on to FEMA Catastrophic Planning Initiative
  - First exclusive natural hazard NLE
  - First “Resource Allocation Workshop” (Private sector involved, Red Cross)
  - Bicentennial anniversary of the 1811 New Madrid earthquake
  - Bottom-up planning process
  - A “National Level Exercise with 8 states directly impacted and potential for many EMAC” states
  - New working groups: citizen and community preparedness; long-term recovery
  - Whole Community initiative integrated
  - National Lessons Learned Conference



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# Overarching Objectives

- Communications
- Citizen Evacuation & Shelter-In-Place
- Mass Care (Sheltering, Feeding, and Related Services)
- Critical Resource Distribution and Logistics
- Emergency Public Information & Warning
- Incident Management / EOC Management
- Medical Surge
- Recovery



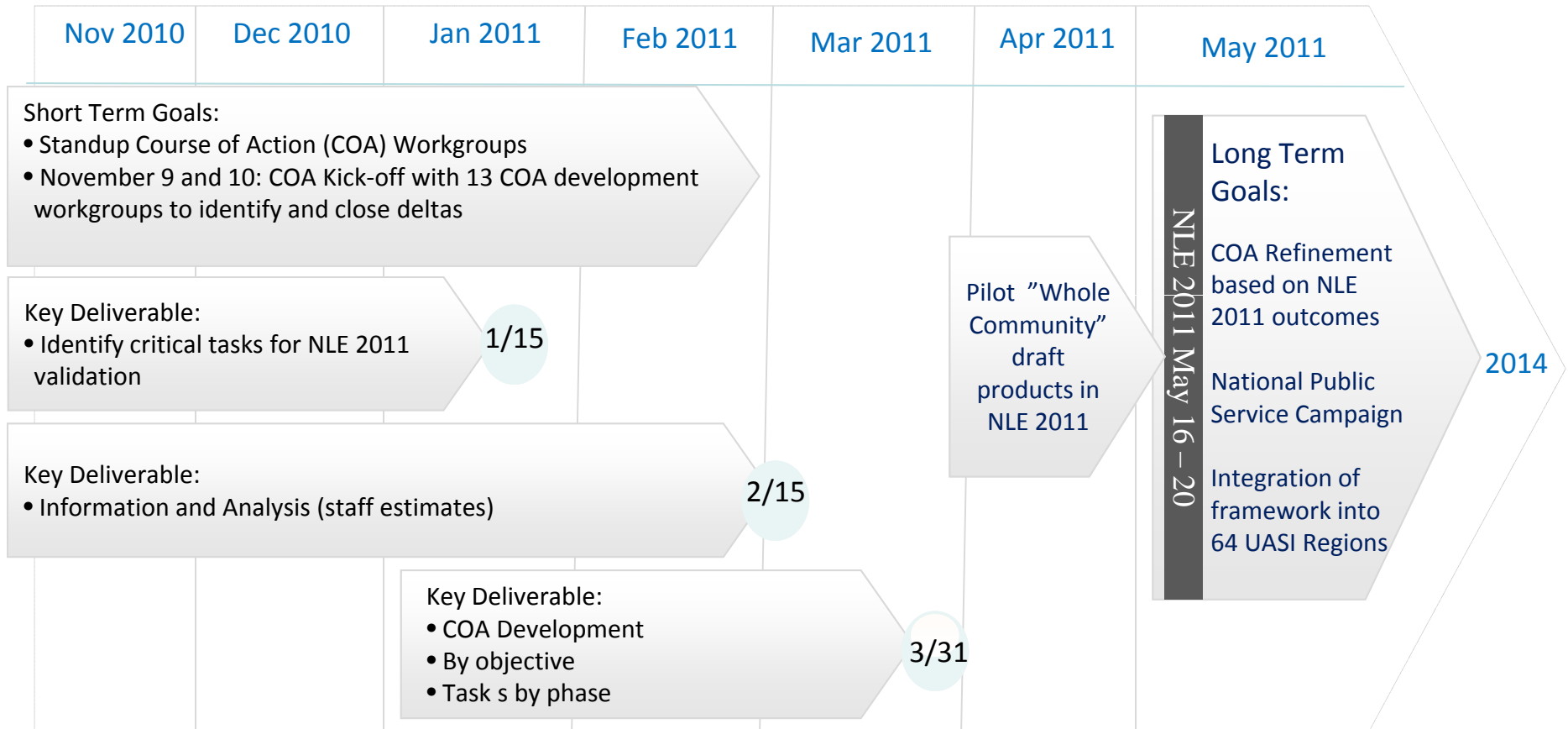
# Whole Community Integration

Core Capability	NLE 2011	Objective, priority, or linked exercise
Situational Assessment	National Objective	Emergency Public Information and Warning Communications Incident/EOC Management (also National Priority - Execute UACG structure) Mass Care
Public Messaging		
Critical Communications		
Command, Control, and Coordination		
Mass Care Services		
Stabilize and Repair Essential Infrastructure	National Priority	Identify, coordinate, direct, and resolve resource gaps (includes unconventional sources, International support, Private Sector, etc)
Public & Private Services and Resources		
Mass Search and Rescue	Linked Exercise	SAR
Environmental Health and Safety		USACE
On-Scene Security & Protection	TBD	TBD
Critical Transportation		
Health and Medical Treatment	Critical tasks still under development	Critical tasks still under development
Fatality Management Services		



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# Whole Community Timeline



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# Federal plans

- National Response Framework and Annexes
- Catastrophic Incident Supplement Time-table
- Federal Interagency Response Plan – Earthquake
- National Infrastructure Protection Plan and Annexes
- International Assistance System
- National Disaster Recovery Framework (draft)
- FEMA Regional Earthquake Response Plans
- National Incident Management System





	Monday		Tuesday		Wednesday		Thursday	
	7am-7pm	7pm-7am	7am-7pm	7pm-7am	7am-7pm	7pm-7am	7am-7pm	7pm-7am
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MS	[Green bar spanning all 8 time slots]							

# Key Federal Players Based on Plans

- **Department of Homeland Security**
  - U.S. Coast Guard
  - Federal Emergency Management Agency
  - Transportation Security Administration
  - U.S. Customs and Border Protection
  - U.S. Immigration and Customs Enforcement
- **Department of State**
- **Environmental Protection Agency**
- **General Services Administration**
- **Small Business Administration**
- **Department of Veterans Affairs**
- **Department of Health and Human Services**
- **Department of Defense**
  - U.S. Army Corps of Engineers
  - National Military Command Center
- **U.S. Agency for International Development**
- **U.S. Postal Service**
- **Department of Energy**
- **Federal Energy Regulatory Commission**
- **Nuclear Regulatory Commission**



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# Key Federal Players Based on Plans

- **Department of Agriculture**

- Animal and Plant Health Inspection Service
- Food Safety and Inspection Service
- U.S. Forest Service

- **Department of Transportation**

- Federal Aviation Administration
- Federal Railroads Administration
- Surface Transportation Board
- Federal Motor Carrier Safety Administration

- **Department of Labor**

- Occupational Safety and Health Administration

- **Department of Interior**

- Bureau of Indian Affairs
- National Park Service
- United States Geological Survey

- **Social Security Administration**

- **Department of Treasury**

- **National Counterterrorism Center**



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# Key Federal Players Based on Plans

- **Department of Commerce**
  - National Weather Service
- **Federal Communications Commission**
- **National Aeronautics and Space Administration**
- **Office of Personnel Management**
- **National Transportation Safety Board**
- **Department of Justice**
  - Federal Bureau of Investigations
  - Bureau of Alcohol, Tobacco, Firearms, and Explosives
  - Federal Bureau of Prisons
  - U.S. Marshals Services
- **Department of Housing and Urban Development**
- **Office of Management and Budget**



# Exercise Play

- Exercise in real time (expected 80 hours straight)
- Real world weather
- Robust simulation
- FEMA Level 1 Activation of NRCC, and affected RRCCs
- Activation of other RRCCs for assistance
- Deployment of IMATs and communication assets (MERS)
- Deployment of Unified Area Coordination Group



# Linked Activities

- **Exercises:**

- Ardent Sentry 11 (N/NC)
  - Turbo Challenge (USTRANSCOM)
  - Ultimate Caduceus (USTRANSCOM - HHS)
  - Noble Life Saver (HHS)

- **International Participation:**

- Coordination FEMA - DOS:
  - FEMA: USAR
  - Department of State: Coordination of assistance/donation offers

- **Senior Official Exercises**

- February 2011 - Transportation
- Early FY 2012 - Recovery



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# Scenario

- Southwest Fault of NMSZ, magnitude (M) 7.7
  - Estimated economic effects
    - \$10B–\$100B baseline
    - \$50B with soil amplification using topographical data
    - ~\$90B with soil liquefaction using the Central United States Earthquake Consortium (CUSEC) geologist soils data
  - Based on initial analysis; additional modeling/analysis driven by exercise objectives, ground truth requirements
- Triggers Wabash Valley Seismic Zone (WVSZ) event
  - Point of event near Mt. Carmel, IL
  - M 6.0

## Key Caveat:

**Damage may be underestimated by factors of 2-4X due to omission of soil amplification and soil liquefaction effects**



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# Key Dates

- February 2011: SOE 1-11: Transportation
- April 2011: National Tabletop Exercise
- April 5-6, 2011: National Final Planning Conference
- May 16–19, 2011: NLE 11 Functional Exercise
- May 20, 2011: Hot Washes; States' Recovery Discussions
- June 2011: National Recovery Seminar
- June 2011: State/Regional Recovery Exercises
- July 2011: National After Action Conferences
- September 20–22, 2011: National Recovery Tabletop Exercise
- Early FY 2012: SOE: Recovery focus
- October 2011: National Lessons Learned Conference



# Modeling & Simulation

- Homeland Security Presidential Directive (HSPD) 8 calls for continuous improvement of the Nation's preparedness to respond to catastrophic events
- Modeling & simulation tools, along with vetted datasets, are an underutilized resource in the emergency preparedness & response community
  - Models being developed by academia, commercial industry (including critical infrastructure sectors), and government agencies
  - Wide variety of existing tools which capture specialized subject matter expertise
- Need for widespread, affordable, and sustained use of analysis and exercise tools across the DHS emergency response mission
  - An integrating framework which links best-in-class models and "validated" data sources to address end-to-end emergency response scenarios
  - Scalable delivery paths (e.g., distributed simulation-based exercises, serious games, virtual worlds and environments, web-based)



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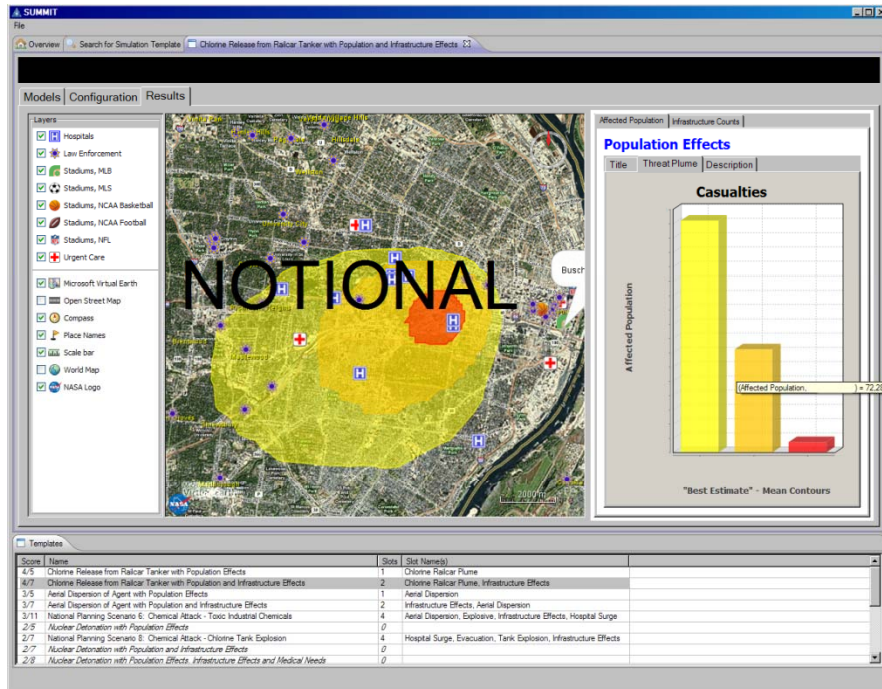
# Standard Unified Modeling & Mapping Tool Kit (SUMMIT)

- A robust next generation system that provides a distributed framework to bring together modeling & simulation tools, technologies, and resources to the National Exercise Simulation Center (NESC)
- SUMMIT will provide critical modeling and simulation integration, shared storage functions and support full life cycle management of current and future modeling & simulation tools and technologies of all levels to directly improve National Preparedness exercises, training, and workshops



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# SUMMIT Capability Examples



SUMMIT data on (2D) map, charts



Color-coded building damage



3D buildings, damage

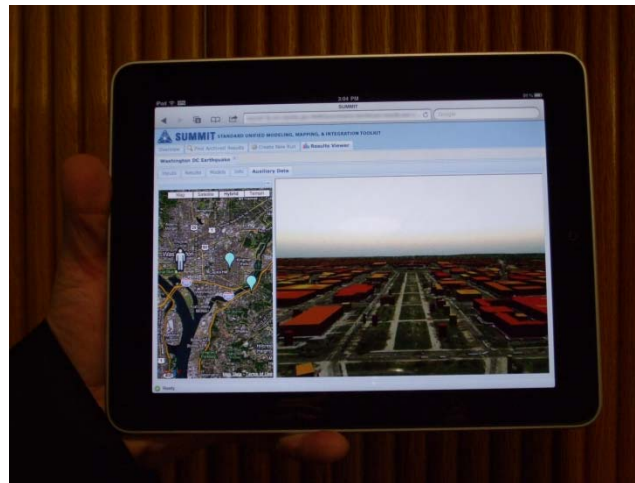


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# SUMMIT Capability Examples (continued)

## Portable 3D Data Visualization Capability at FEMA NESC

The SUMMIT Tool rapidly links together disparate models and data in a unified framework



The SUMMIT pilot capability includes 3D visualization of damage data, which can be viewed on a portable device (iPad). The data would be generated via the NESC and delivered to the state.

### Example use:

Exercise players need to conduct damage assessments. Since buildings are not physically damaged in exercise play, visualization can provide damage information for players.

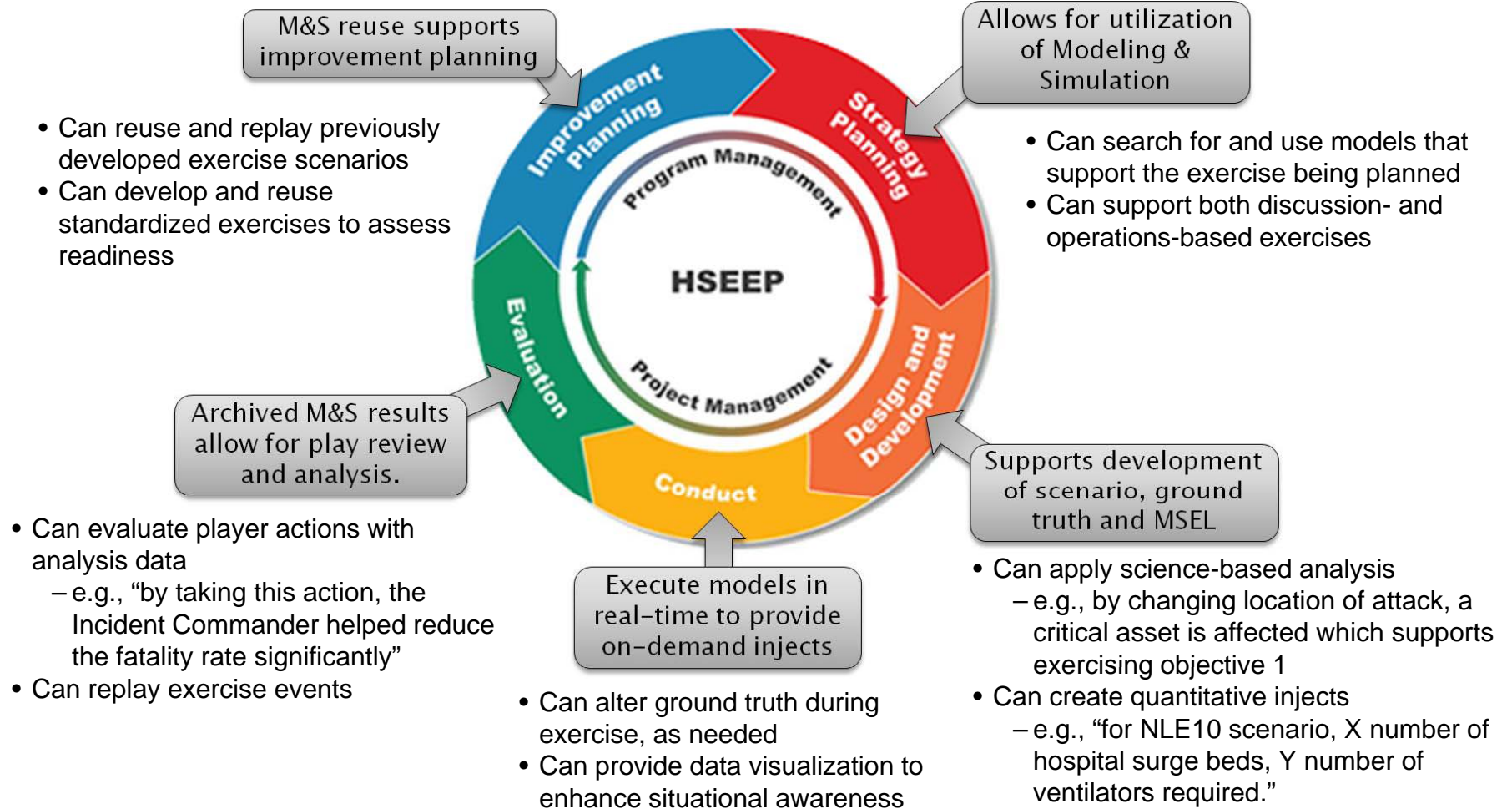
### SUMMIT data visualization would enable:

From portable device (iPad), 3D panoramic images of building damage for select locations – *damage data from HAZUS*



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# SUMMIT and HSEEP Integration



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Diagram represents the long-term vision. Current SUMMIT prototype installed in the NESC provides some limited capability in each of these areas.

# Backup Slides

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# Overarching Objectives (1/3)

- **Communications**

- Demonstrate the ability to maintain a continuous flow of critical information among multi-jurisdictional and multi-disciplinary emergency responders, command posts, agencies and governmental officials for the duration of the earthquake response operation

- **Citizen Evacuation & Shelter-In-Place**

- Demonstrate the ability to assure affected and at-risk populations (and companion animals) are safely sheltered-in-place and/or evacuated to safe refuge areas in order to obtain access to medical care, shelter and other essential services, and are effectively and safely reentered into the affected area

- **Mass Care (Sheltering, Feeding, and Related Services)**

- Demonstrate the ability to provide mass care services (sheltering, feeding, and bulk distribution) for the affected general populations, services for functional-needs populations, and service animals, companion animals, and household pets



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# Overarching Objectives (2/3)

- **Critical Resource Distribution and Logistics**
  - Demonstrate the ability to identify, inventory, dispatch, mobilize, transport, recover, demobilize, track and record available human and material critical resources throughout all incident management phases
- **Emergency Public Information & Warning**
  - Demonstrate the ability of intergovernmental agencies and the private sector to execute an effective public official and national media strategy in response to a catastrophic earthquake through the effective receipt and transmission of coordinated, prompt, and reliable information regarding threats to public health, safety, and property, through clear, consistent information delivery systems. Assure this information is updated regularly and that it outlines the protective measures that can be taken by individuals and their communities during a catastrophic earthquake



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# Overarching Objectives (3/3)

- **Incident Management / EOC Management**
  - Demonstrate the ability to effectively manage a catastrophic earthquake incident through multi-agency unified coordination
- **Medical Surge**
  - Demonstrate the ability to rapidly expand healthcare resources to provide medical personnel, support functions, physical space and logistics support to deliver triage, treatment and medical care to the affected and at-risk populations within sufficient time to achieve recovery and minimize medical complications
- **Recovery**
  - Demonstrate the ability to implement recovery processes after a catastrophic earthquake, including the establishment of recovery priorities, the assessment of economic impact and the coordination and implementation of recovery and relief plans to assure that individuals, families, businesses and communities are provided with appropriate levels and types of relief with minimal delay



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