

Threat and Hazard Identification and Risk Assessment



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Homeland Security Planner



NM Food Protection Task Force

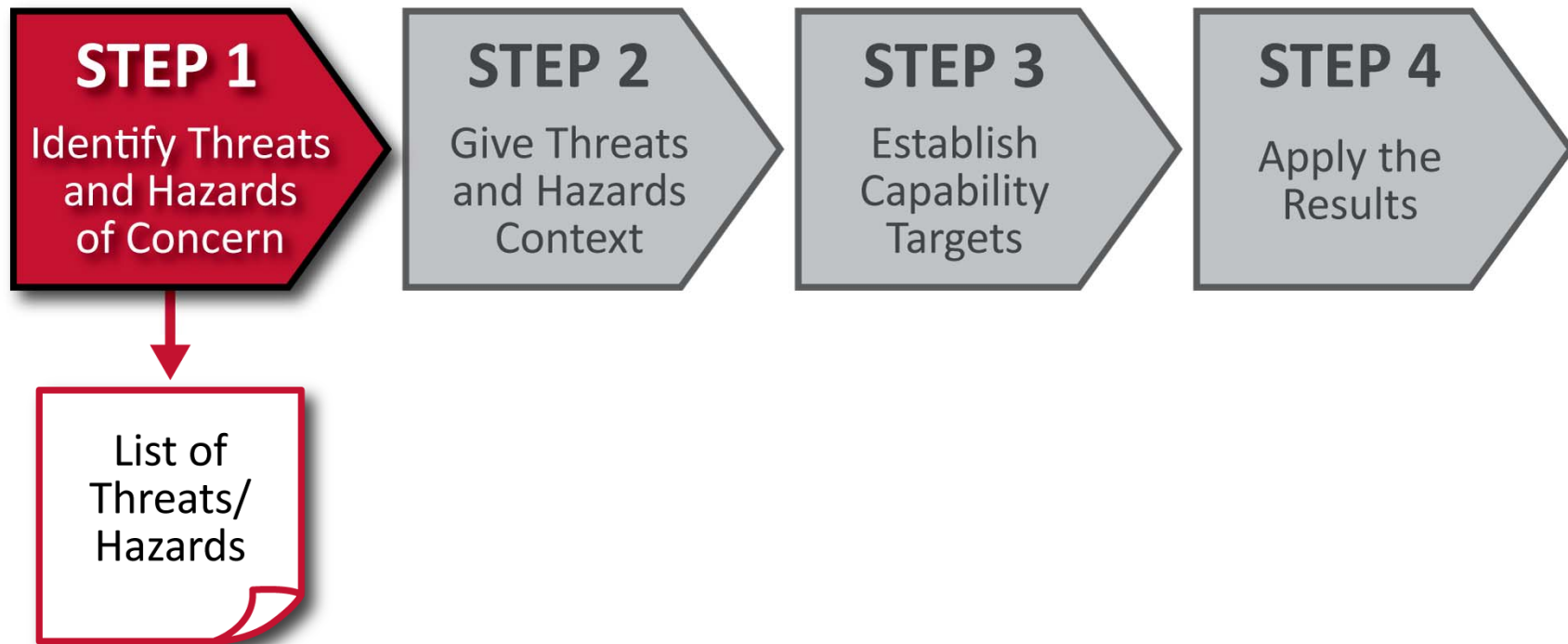


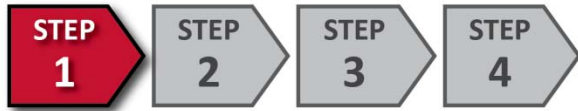
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THIRA Steps and Outputs



THIRA: Step 1





Brainstorm Threats and Hazards

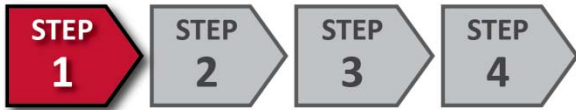
Three types of threats/hazards:

- Natural: Acts of nature, such as hurricanes, tornadoes, earthquakes, and **disease outbreaks and epidemics**
- Technological: Hazards resulting from accidents or failures of systems and structures, such as hazardous materials spills or dam failures
- Human-caused: Intentional actions of an adversary, such as a threatened or **actual chemical or biological attack** or cyber event


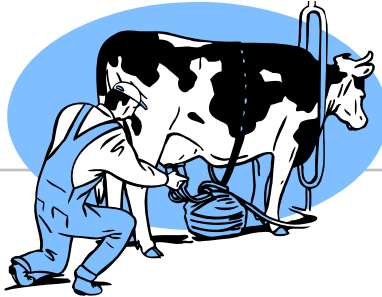



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Brainstorm Threats and Hazards for the Community

Natural	Technological	Human-caused
<ul style="list-style-type: none"> ▪ Drought ▪ Earthquake ▪ Epidemic ▪ Flood ▪ Hurricane ▪ Landslide ▪ Tornado ▪ Tsunami ▪ Wildfire ▪ Winter storm 	<ul style="list-style-type: none"> ▪ Dam failure ▪ Levee failure ▪ Hazardous materials release ▪ Power failure ▪ Radiological release ▪ Train derailment 	<ul style="list-style-type: none"> ▪ Biological attack ▪ Chemical attack ▪ Cyber incident ▪ Explosives attack ▪ Radiological attack ▪ School violence 



THIRA: Step 2





How Might the Threats and Hazards Affect Us?

For each threat and hazard identified in Step 1:

- Outline the conditions—including **time and location**—under which a threat or hazard might occur
 - Omit details that will not produce clear operational effects
- Effective context descriptions should provide an overall sense of scale for the impacts of a threat or hazard



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Threat and Hazard Context Description Examples

Threat/Hazard	Earthquake	Terrorism
<p>Context Description</p>	<p>A magnitude 7.8 earthquake along the Mainline Fault occurring at approximately 2 p.m. on a weekday with ground shaking and damage expected in 19 counties, extending from Alpha County in the south to Tau County in the north, and into the Zeta Valley.</p>	<p>A potential threat exists from a domestic group with a history of using small improvised explosive devices (IEDs) in furtherance of hate crimes. There are a number of large festivals planned during the summer at open-air venues that focus on various minorities' ethnic and religious groups; these events draw 10,000 attendees daily on average.</p>



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Example Context Descriptions

Discuss the strengths and opportunities to improve the following context statements.

A **novel strain of H1N1 (swine flu) has traveled across the country** and is affecting North America with a significant number of confirmed cases in Anystate. Many of those infected are seeking medical attention at area clinics and hospitals. Out-patient urgent care facilities, primary care clinics, and hospitals are seeing an increase in visits and admissions to hospital intensive care units. Demands for antiviral, vaccine, and respiratory equipment such as ventilators are increasing. Mass vaccination clinics are underway statewide. The fatality rate is approximately 30% and funeral homes have been running low on supplies and support personnel.



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THIRA: Step 3





Estimating Impacts

Impacts should be specific and include quantitative descriptions whenever possible

- Size of geographic area impacted
- Number of displaced households
- Number of fatalities
- Number of injuries or illnesses
- Disruption to critical infrastructure
- Intelligence requirements and needs
- Amount of direct economic impacts
- Economic effects of supply chain disruption



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Core Capabilities

PREVENT	PROTECT	MITIGATE	RESPOND	RECOVER
Planning	Planning	Planning	Planning	Planning
Public Information and Warning	Public Information and Warning	Public Information and Warning	Public Information and Warning	Public Information and Warning
Operational Coordination	Operational Coordination	Operational Coordination	Operational Coordination	Operational Coordination
Forensics and Attribution	Access Control and Identity Verification	Community Resilience	Critical Transportation	Economic Recovery
Intelligence and Information Sharing	Cybersecurity	Long-Term Vulnerability Reduction	Environmental Response / Health and Safety	Health and Social Services
Interdiction and Disruption	Intelligence and Information Sharing	Risk and Disaster Resilience Assessment	Fatality Management Services	Housing
Screening, Search and Detection	Interdiction and Disruption	Threats and Hazard Identification	Infrastructure Systems	Infrastructure Systems
	Physical Protective Measures		Mass Care Services	Natural and Cultural Resources
	Risk Management for Protection Programs and Activities		Mass Search and Rescue Operations	
	Screening, Search and Detection		On-Scene Security and Protection	
	Supply Chain Integrity and Security		Operational Communications	
			Public and Private Services and Resources	
			Public Health and Medical Services	
			Situational Assessment	



FEMA



Questions to Think About...

Prevention – Intelligence and Information Sharing:

- Who do you need to receive intelligence from in order to prevent the event? Who does the intelligence regarding potential events need to be distributed to?

Response – Fatality Management:

- How many fatalities will the incident cause?

Recovery – Health and Social Services:

- How many people could have experienced a trauma and need behavioral health assistance? How many community health and social services centers were damaged?

Mitigation – Long-term Vulnerability Reduction

- What risk reduction strategies will make a difference in this event?



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Impacts for Core Capabilities

Examples from 2013 State THIRA:

- *Mass Search and Rescue Operations*, winter storm: 2,000 structures impacted over an area of 150 square miles; search of abandoned and stranded cars is required
- *Natural and Cultural Resources*, winter storm: 1.2 million yards of vegetative debris; 500,000 yards of construction debris; 250,000 yards of hazardous debris; historic sites impacted; 10% of vital records destroyed; personnel records and key documents are destroyed; and damage to at least one cultural resource



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Developing Desired Outcomes

Communities should consider various types of time-based desired outcomes

- Some desired outcomes are most useful if they include timeframes for completing operations (e.g., complete evacuation of neighborhood within four hours)
- **In other cases, the time to establish services is most important (e.g., establish feeding and sheltering operations for the displaced population within 24 hours)**
- In still other cases, the duration of services may be critical (e.g., maintain behavioral screening checks for affected population for one month)



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Examples of Desired Outcomes

- Within seven days of an incident, restore basic health and social services functions
- Before an event, conduct outreach and education (libraries, museums, etc.) **for awareness of potential hazards** (including continuity of operations [COOP]), and identification of at-risk facilities and vulnerabilities
- Within 24 hours, characterize and contain the hazard; within 72 hours, control the hazard
- Complete **risk assessments for 100% of prioritized critical infrastructure and key resources (CI/KR) assets**
- Every five years, revise, exercise, and implement all protection plans



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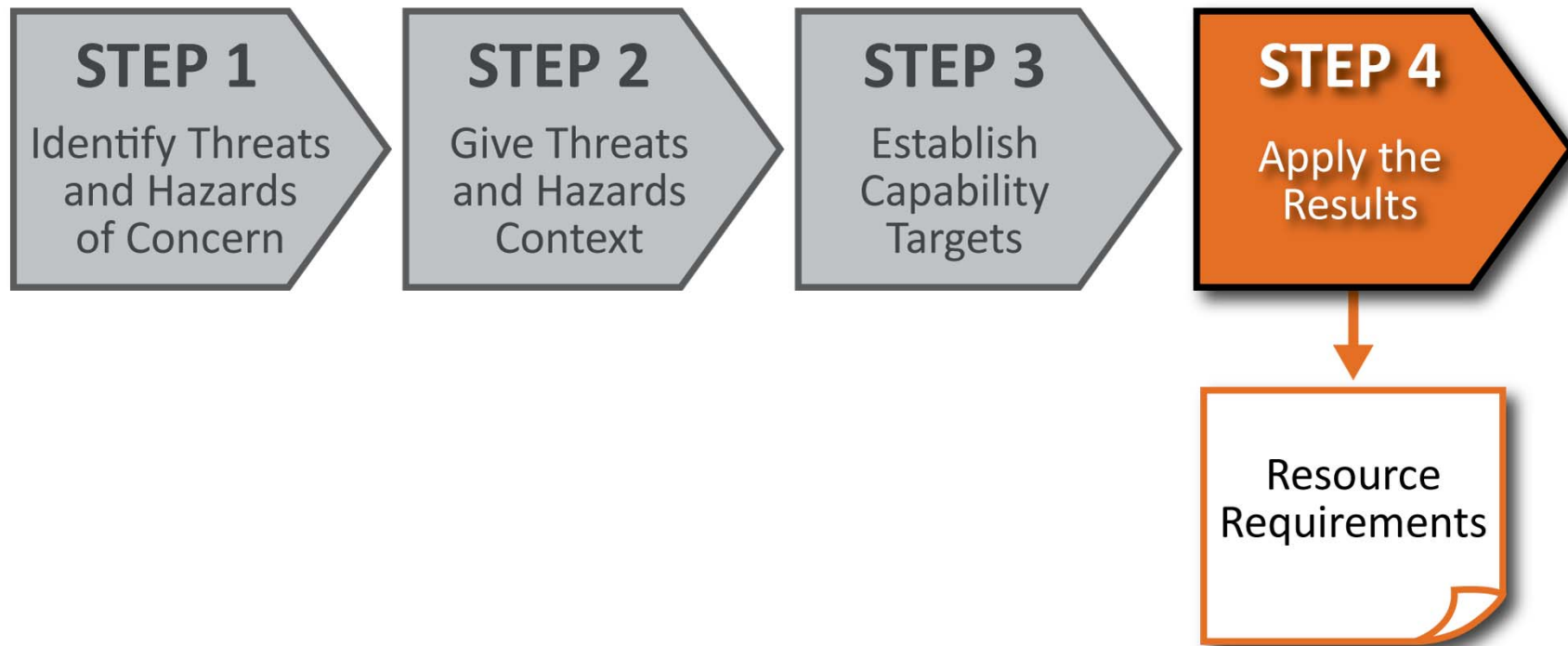
Capability Target Example

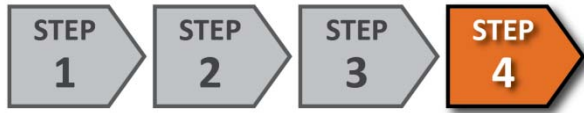
Threat/Hazard	Earthquake	Terrorism
Context Description	A magnitude 7.8 earthquake along the Mainline Fault occurring at approximately 2 p.m. on a weekday with ground shaking and damage expected in 19 counties, extending from Alpha County in the south to Tau County in the north, and into the Zeta Valley.	A potential threat exists from a domestic group with a history of using small IEDs in furtherance of hate crimes. There are a number of large festivals planned during the summer at open-air venues that focus on various minorities' ethnic and religious groups; these events draw on average 10,000 attendees daily.
Core Capability: Mass Search and Rescue Operations		
Capability Target	Within 72 hours, rescue: <ul style="list-style-type: none"> ▪ 5,000 people in 1,000 completely collapsed buildings ▪ 10,000 people in 2,000 non-collapsed buildings ▪ 20,000 people in 5,000 buildings ▪ 1,000 people from collapsed light structures 	



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THIRA: Step 4





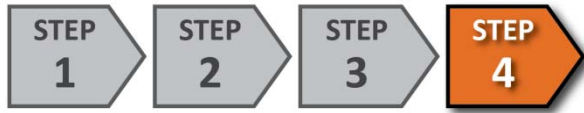
Resource Typing

Communities should develop resource requirements expressed as a list of NIMS-typed resources, when possible, or other standardized resources:

- Resource typing is categorizing the resources requested, deployed, and used in incidents
- Resource typing helps communities request and deploy needed resources through the use of common terminology



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Resource Typing

NIMS-typed Resources:

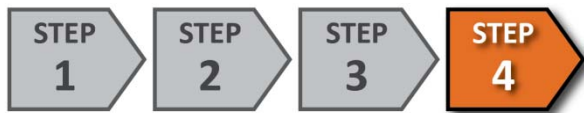
- Include the composition and capabilities of teams, personnel, equipment, and supplies commonly exchanged in disasters
- Can be found, organized by discipline, at <http://www.fema.gov/national-incident-management-system>

Other Standardized Resources:

- State-defined Tier II NIMS-typed resources
- Mission Ready Packages available through the Emergency Management Assistance Compact (EMAC)



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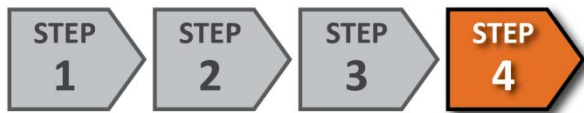
Resource Typing

- Identify resources at a manageable level of detail

Too Broad	Appropriate	Too Detailed
All adequate personnel to meet the outcome	1 Case Management Team	1 operations manager 1 team leader 1 case management supervisor 1 case manager 1 community coordination specialist



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Resource Requirement Example

Core Capability: Mass Search and Rescue Operations	
Capability Target	Within 72 hours, rescue: <ul style="list-style-type: none"> ▪ 5,000 people in 1,000 completely collapsed buildings ▪ 10,000 people in 2,000 non-collapsed buildings ▪ 20,000 people in 5,000 buildings ▪ 1,000 people from collapsed light structures
Resource Requirement	
Resources	Number Required
Type I Urban Search and Rescue (US&R) Task Forces	10
Type II US&R Task Forces	38
Collapse Search and Rescue (S&R) Type III Teams	100
Collapse S&R Type IV Teams	20
Canine S&R Type I Teams	20



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Questions



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Homeland Security and Emergency Management Conference

11-12 August 2014 Pre-Conference Training (THIRA)

12-15 August 2014 Conference

Hotel Albuquerque

Resource Rodeo (Bring your Toys)



FREE OF CHARGE
Law Enforcement CEUs
EMS CEUs



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