

SOURCES

FEMA compiled the 2016 *National Preparedness Report* using a combination of qualitative and quantitative preparedness data and contributions from multiple sources.

BY THE NUMBERS

116

Federal Data Call
Submissions

124

Federal Offices
Engaged

450+

Data Sources
Referenced

125

Threat and Hazard
Identification and
Risk Assessments

56

State Preparedness
Report Submissions

NON-FEDERAL COMMUNITY ENGAGEMENT INCLUDED:

- American Red Cross
- Humanity Road
- National Emergency Management Association
- National Domestic Preparedness Consortium
- National Voluntary Organizations Active in Disaster
- Other Private-sector Partners

From: National Wildfire Coordinating Group, GIS SOP on Incidents, June 2006

	Required Map Products					Optional Map Products															Other		
DATASET	IAP Map	Progression Map	Situation/Plans Map	Briefing Map	Transportation Map		Aerial Operations Map	Facilities Map	Public Information Map	Rehabilitation Map	Structural Protection Map	Wildfire Situation Analysis Map	Wildland Fire Implementation Plan	Areas of Special Concern Map	Fire Perimeter History Map	Infrared Intelligence Map	Fuels Map	Ownership/Land Status Map	Vegetation Map	Damage Assessment Map		Evacuation Plan	FAIRSITE Layers
Class A - Datasets Required for Required Products																							
Roads	O	R	R	R	R				R		R	O	O		O					R		R	O
Topographic Base (usually DRG)	R	O	O	O			O		O	O	O	R	R	O	O	R	R	O	R	O			
Class B - Datasets Required for Optional Products																							
Administrative Boundaries-Ownership-Land Status		O		O	O			O				R	R	O	O			R		O			
Airports-Helibases					O		R																
Aviation Hazards (Including DADIF and DVOP)			O	O			R																
Canopy Cover																							R
Communities (GNIS Populated Places)					O			R				R	R	O									
DEMs (Elevation, Slope, Aspect)																							R
Fire Occurrence Polygons														O	R								O
Fuels																	R						R
GNIS Geographic Names Information System		O			O		R	O	O	O								R		O			
Land Parcels										O	O	O						R		O			
Structures			O						O	R	R	R	O						R			R	
Subdivisions			O																			R	
Vegetation												O	O	O					R				
Hydrography (rivers-lakes)	O	O	O		O		R	O	O		O	O						O					O
Class C - Optional Datasets																							
Archaeological Sites*							O					R	R	O									
Aviation Sectional																							
Cultural Resources*												R	R	O									
Infrastructure													R	R									
Military Training Routes-Op Areas (MTR/MOA)							O																
Ortho Imagery (usually DOQ)			O						O	O	O			O	O	O		O	O				
Other Scanned maps					O																		
Political Boundaries (County-State)			O		O				O	O	O	O	O	O	O		O		O		O		
Public Land Survey			O	O	O				O												O		
Response Areas (Direct Protection Areas)			O																				
Schools									O			O	O	O									
Shaded Relief		O	O				O	O	O		O	O	O	O	O	O	O	O	O	O			
Threatened and Endangered Species (T&E)												O	R	O									
Wilderness	O	O					O					O	O										
Wildland Urban Interface (WUI)													R	R	O								
Legend:	R- Required layer for product					O - Optional Layer - may be added if available																	
* These datasets may be used for land manager planning, but may not be displayed on the final map as the sites are sensitive and not for public display																							

DATASET	Data Content and Specifications	Suggested Acquisition
Roads	Road Names, Road Class, Road Surface, Lookup tables with descriptions of coding. Accurate for use at 1:24,000 scale.	Preambval
Topographic Base (usually DRG)—optional	Source Date, USGS Standard Color scheme—13 or 256 colors, Revision Date, Collar removed, scan resolution 200–1,000 dpi (USGS standard)	Preambval
Hydrography (rivers-lakes)	Name (Optional)	Preambval
GNIS Geographic Names Information System	Name, Type	Preambval
Administrative Boundaries—Ownership—Land Status	Agency—Owner Name, contact info	Preambval
DEMs (Elevation, Slope, Aspect)	Resolution	Preambval
Public Land Survey	Township, Range, Section	Preambval
Structures	Address, Risk Assignment (Optional)	Preambval
Subdivisions	Name	Preambval
Canopy Cover		Local Unit
Fire Occurrence Polygons	Fire Name, Year	Local Unit
Fuels	Fuel Model	Local Unit
Land Parcels	Parcel ID, Contact Info (Optional)	Local Unit
Vegetation	Forest Type, Age, Basal Area, Height	Local Unit
Communities (GNIS Populated Places)	Name	Preambval
Airports—Helipases	Name, Type, Latitude, Longitude	Local Unit
Aviation Hazards (Including DAFIF and DVOF)	Hazard Type, Elevation, Latitude, Longitude	Local Unit
Orthoimagery (usually DOQ)	Source Date, Resolution	Preambval
Political Boundaries (County—State)	Name	Preambval
Shaded Relief	Not applicable	Preambval
Archaeological Sites	Contact Info	Local Unit
Cultural Resources	Contact Info	Local Unit
Infrastructure	Name, Type	Local Unit
Other Scanned Maps	Source, Source Date	Local Unit
Response Areas (Direct Protection Areas)	Name	Local Unit
Schools	Name	Local Unit
Threatened and Endangered Species (T&E)	Type	Local Unit
Wilderness	Name	Local Unit
Wildland Urban Interface (WUI)	Type	Local Unit
Aviation Sectional	Source Date	Preambval

From: Australian Government Comcare, Identifying Hazards in the Workplace, 2004

	HAZARD MANAGEMENT	HAZARD MANAGEMENT (cont'd)	WORKPLACE ENVIRONMENT	SAFE WORKING PROCEDURES	THE WAY WORK IS ORGANISED	THE WAY PEOPLE ARE MANAGED	MANUAL HANDLING
The Standard	All hazards and incidents are reported and recorded. The records are used to identify potential risks.	Workplace conditions are regularly checked. All serious risks have been identified and assessed. Controls are in place. Risks are reconsidered when there are proposed changes at the workplace.	Risks in the workplace environment have been controlled using the hierarchy of controls where elimination of risk is considered before minimisation of risk. At a minimum, the items listed below should meet required standards.	Written SWP's exist for all tasks where a significant element of risk has been assessed. Managers and supervisors enforce the use of SWP's.	All employees are aware of their job content and their roles. Workloads, work processes and deadlines are effectively managed. All changes to jobs are implemented having regard to input from employees.	A system exists for the coordination of training, feedback and performance counselling and this is used effectively. Interpersonal conflict including harassment is resolved and discipline is always handled appropriately.	A system exists to ensure that manual handling hazards in the workplace have been identified, the risks assessed taking into account all relevant factors, and that the risks have been controlled using the "hierarchy of controls".
What to look for	- A system is in place and it is routinely used by all employees to report hazards and incidents. For example, can employees identify incidents that were not reported? - A significant proportion of hazards are reported and dealt with before injury occurs. For example, surveys and safety audits are conducted at least 6 monthly. Significant numbers of dangerous occurrences, compared to injuries, are reported and acted on. - Analysis of trends is undertaken and data is supplied to managers, Health and Safety Committees and Health and Safety Representatives (HSRs).	- Workplace monitoring systems are in use in all workplaces. - Managers and supervisors and HSR's are involved in the process. - There is a system that ensures the proper assessment and control of risks arising from hazards. - Details of hazard assessments and controls are recorded in writing and retained. - The system ensures that risks are reassessed when there are changes proposed in the workplace. - Staff have access to and understand Safe Working Procedures (SWP).	- An up to date set of all relevant regulations, codes of practice and Australian Standards is held by the employer. - Managers are aware of, and have ready access to this information.	- Significant risk activities have been identified. - All necessary SWP's have been identified, documented and put in place. - All affected employees have been made aware of the SWP's. - Managers and supervisors ensure that SWP's are followed at all times. - The SWP's are understood and followed by all employees.	- Workloads and work processes are regularly reviewed to ensure that work requirements can be met. - All employees are aware of their roles. - Employees are fully trained in all skills required to do their work. - Employees have input to the decision making process. - Employee input is seen to be considered by management in decision making.	- There is systematic performance feedback to employees. - Employees are able to discuss and schedule training needs. For example, there is a programmed competency based training identification system. - Managers initiate meetings with employees to identify training needs. - Required training is always considered on workplace change. - Workplace conflict receives appropriate attention from management. - Disciplinary matters are administered in accordance with the agreed standards.	- There is a system for the early identification of manual handling hazards. For example, manual handling aspects of work are identified before changes to plant and/or systems are introduced. - All manual handling risks have been assessed and the assessments recorded. For example, a manual handling risk assessment has been conducted in the last year. - All manual handling risks have been controlled effectively and details recorded. - All work stations and equipment are ergonomically designed.

Table 1. Phases of Emergency Management: Definitions and Descriptions from Five Sources*

Phase	Source				
	National Governors' Association (NGA) <i>Comprehensive Emergency Management: A Governor's Guide</i> May 1979	DHS, Federal Emergency Management Agency (FEMA) <i>Principles of Emergency Management, Independent Study</i> February 2006	DHS, Federal Emergency Management Agency (FEMA) <i>National Response Framework Glossary/Acronyms</i> http://www.fema.gov/emergency/nrf/glossary.htm Accessed July 2009	Tennessee Code Annotated 58-2-101 "Emergency management" means the preparation for, the mitigation of, the response to, and the recovery from emergencies and disasters... July 2009	National Fire Protection Association <i>NFPA 1600—Standard on Disaster/Emergency Management and Business Continuity Programs</i> including <i>Annex A Explanatory Material</i> 2007 Edition
Mitigation	Mitigation includes any activities that actually eliminate or reduce the probability of occurrence of a disaster (for example, arms build-up to deter enemy attack or legislation that takes the unstable double-bottom tanker off the highways). It includes long-term activities designed to reduce the effects of unavoidable disaster (for example, land-use management, establishing comprehensive emergency management programs, or legislating building safety codes).	Mitigation refers to activities that are designed to: Reduce or eliminate risks to persons or property, or Lessen the actual or potential effects or consequences of an incident.	Activities providing a critical foundation in the effort to reduce the loss of life and property from natural and/or manmade disasters by avoiding or lessening the impact of a disaster and providing value to the public by creating safer communities. Mitigation seeks to fix the cycle of disaster damage, reconstruction, and repeated damage. These activities or actions, in most cases, will have a long-term sustained effect.	Reduction of vulnerability of people and communities of this state to damage, injury, and loss of life and property resulting from natural, technological, or manmade emergencies or hostile military or paramilitary action;	Activities taken to reduce the severity or consequences of an emergency. <i>No explanatory material provided for "Mitigation"</i>
Prevention	<i>No definition provided for "Prevention"</i>	Prevention: — Means actions taken to avoid an incident or to intervene to stop an incident from occurring. — Involves actions taken to	Actions to avoid an incident or to intervene to stop an incident from occurring. Prevention involves actions to protect lives and property. It involves applying	<i>No definition provided for "Prevention"</i>	Activities to avoid an incident or to stop an emergency from occurring. <i>Explanatory Material:</i> Activities, tasks, programs, and systems intended to

Table 7.1
Key Elements of Self-Sufficiency

Element	Description	Activities for State and Local Entities
1. Encourage personal and community preparedness.	Promote and support actions taken by individuals, households, and communities to gain knowledge about potential hazards, prevent adverse consequences, and implement appropriate incident response.	Develop individual/family plans that identify where reunification will take place. Become educated on emergency preparedness and disseminate educational materials received from trainings to community members and neighborhood associations. Incentivize individual and community preparedness.
2. Encourage civic responsibility.	Support actions and attitudes associated with democratic governance and social participation. In the context of national health security, civic responsibility includes actions such as participation in emergency planning and advocacy.	Develop and disseminate messages that foster a sense of civic responsibility in responding to a disaster (e.g., public benefits of vaccination). Emphasize positive messaging as opposed to the negative consequences of inaction.
3. Promote effective bystander responses.	Encourage productive actions to be taken by individuals to protect themselves and other community members during an incident. Bystander response requires that, until emergency responders arrive, communities are sufficiently healthy to sustain themselves and attend to their own health needs (including the need for psychological support), and can assist in addressing the needs of at-risk individuals.	Develop and promote programs that recognize the vital role citizens can and must play as "first responders" to help their own families and neighbors in the first hours to days of a major disaster.
4. Foster self- and community-reliance.	Encourage individuals and communities to assume responsibility for their health and well-being and the health and well-being of their neighbors, and communicate that they should expect to function without external assistance for up to 72 hours after an incident.	Ask for and provide informational, instrumental, and emotional support to/from neighbors, friends, and family. Emphasize a community "call to action" in which individual responsibility is stressed.

SELECT SFI SCENARIO CHARACTERISTICS

(abbreviated list)

Scenario Scenario Characteristic	Quantum Leap	Bet on the Wrong Horse	Dragon vs Tiger	Treading Water	Dude, Where's My Sovereignty?
US Economy	Strong, vibrant, dynamic	Lethargic, in and out of recessions	Strong rebound after a period of decline and	Worst since Great Depression	Lagging peer competitors
Climate & Weather	Extreme events more frequent	Stabilizing; climate change possibly reversed	Steady state trend in climate change	Worsening trend, with more extreme weather	More severe storms, droughts and flooding.
Infrastructure	Bleeding-edge modernization underway	Mixed; transport lags global trends	Highly advanced, with embedded IT and security	Seriously degraded	General decline; pay-per-use is widespread
States & Localities	Relatively strong, but with pockets of distress	Rural areas hit by population shifts to urban areas	Recovering after massive federal bail-outs	Extreme fiscal vulnerability with paring of fed help	States very powerful but prospects vary
Major Threat Areas	Climate change effects, technology in wrong hands	Cyber-security, chronic fiscal pressures	Potential for nuclear conflict abroad; complacency	Pandemics, poverty, limited public resources	Underfunded entitlements; foreign influence; weak federal leadership