Disaster Response SMARTBOOK 3

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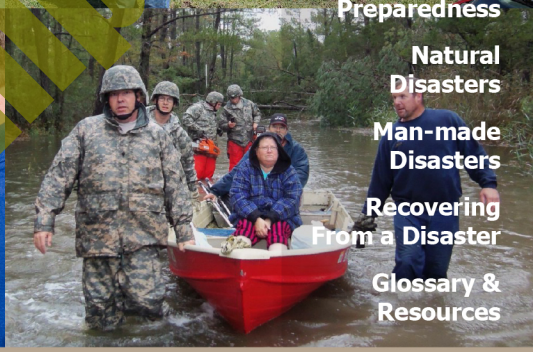

Second Edition

Disaster Fundamentals

Personal Preparedness

Community Preparedness

Organizational Preparedness

Natural Disasters

Man-made Disasters

Recovering From a Disaster

Glossary & Resources

Disaster Preparedness

Personal, Community & Organizational Readiness

The Lightning Press
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Disaster Response SMARTbook 3: Disaster Preparedness (2nd Ed.)

Personal, Community & Organizational Readiness

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(DRS3) Notes to Reader

Disaster can strike anytime, anywhere. It takes many forms—a hurricane, an earthquake, a tornado, a flood, a fire, a hazardous spill, or an act of terrorism. In the past decade alone, natural disasters of considerable severity resulted in 699 Presidential Disaster Declarations, an average of nearly six per month.

Disaster management (or emergency management) is the term used to designate the efforts of communities or businesses to plan for and coordinate all the personnel and materials required to either mitigate the effects of, or recover from, natural or man-made disasters, or acts of terrorism.

Individuals can make a difference in their own community but not everyone has bought into preparedness. Research on **personal preparedness** indicates that individuals who believe they are prepared for disasters often are not as prepared as they think. In addition, some admit they do not plan at all.

Our nation's emergency managers, firefighters, law enforcement officers, EMT/paramedics, and other emergency responders do an incredible job of keeping us safe, but they cannot do it alone. We must all embrace our personal responsibility to be prepared -- in doing so, we contribute to the **safety and security of our communities** as well.

Planning and preparing can make a big difference in being safe and **keeping an organization operational** during and after a disaster. The ability to maintain or quickly reestablish operations or organization processes requires a focus on preparedness, advance planning, and relationships with external partners and community leaders.

Recovering from a disaster is usually a gradual process. Safety is a primary issue, as are mental and physical well-being. If assistance is available, knowing how to access it makes the process faster and less stressful.

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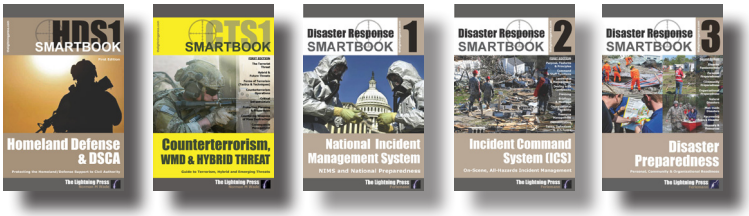

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Chap 1

I. Understanding Disasters

Most disasters are the results of things we live with every day as acceptable risks: the West Coast has earthquakes, the Central Plains has tornadoes, and the East Coast has hurricanes. The very nature of the changing earth conflicts with man's desire to build permanent things. We know it is not only possible, but *probable* that a disaster will affect us because we have come to understand those natural changes. We also realize that disasters are low-probability and high-effect, and so we have come to accept the hazards and threats of these events and have adapted responses to help.

(FEMA photo/ Anita Westervelt)

It is the predictable nature of disasters that allows us to prepare for them in meaningful ways. With this knowledge we can make choices prior to an event and make decisions on some very important things. We can choose where we will live and how we will respond to the disaster probabilities we have chosen to live with. To help you understand what happens in a disaster, the first part of this chapter will discuss what disasters are and the real effects they may have on you. The second part of the chapter will discuss the importance and meaning of the words used in disaster communication.

What are Disasters and How Do They Affect Us?

In the business of emergency management, there are many things that can be communicated to the public prior to a disaster. Although authorities sometimes do not know exactly when a disaster will take place or exactly *how* bad the damage may be, there is other information that can help identify the possibility, probability, and extent of a natural or man-made event. Names like "Tornado Alley," "hurricane season," and "100-year flood plain" represent a level of understanding that can be conveyed to the public to their advantage.

The word "disaster" is defined in the Merriam-Webster dictionary as a sudden calamitous event bringing great damage, loss, or destruction, or more broadly, a sudden or great misfortune or destruction[1]. The application of the word is not limited in scope

The Nature of a Catastrophic Incident

A catastrophic incident, as defined by the National Response Framework (NRF), is "any natural or man-made incident, including terrorism, that results in extraordinary levels of mass casualties, damage, or disruption severely affecting the population, infrastructure, environment, economy, national morale, and/or government functions." Catastrophic incident is the same as catastrophic event as defined by DOD. A catastrophic event could result in significant nationwide impacts over a prolonged period of time. It almost immediately exceeds resources normally available to state, territory, tribal, local, and private-sector authorities in the impacted area, and it significantly interrupts governmental operations and emergency services to such an extent that national security could be threatened.

> ***Complex Catastrophe***
>
> *Any natural or man-made incident, including cyberspace attack, power grid failure, and terrorism, which results in cascading failures of multiple, interdependent, critical, life-sustaining infrastructure sectors and causes extraordinary levels of mass casualties, damage or disruption severely affecting the population, environment, economy, public health, national morale, response efforts, and/or government functions.*

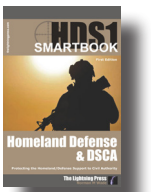
The catastrophic event becomes complex (complex catastrophe) when it causes cascading failures of multiple, interdependent, critical life-sustaining infrastructure, in which disruption of one infrastructure component (such as the electric power grid) disrupts other infrastructure components (such as transportation and communications).

Recognizing that federal or national resources are required to augment overwhelmed state, interstate, territory, tribal, and local response efforts, the NRF—Catastrophic Incident Annex establishes protocols to pre-identify and rapidly deploy key essential resources (e.g., medical teams, search and rescue [SAR] teams, transportable shelters, medical and equipment caches, and emergency communications) required to save lives and contain incidents.

When a situation is beyond the capability of an affected state or territory, the governor may request federal assistance from the President. The President may also proactively direct the federal government to provide supplemental assistance to state, territorial, tribal, and local governments to alleviate the suffering and damage resulting from disasters or emergencies.

Crisis management" refers to measures to identify, acquire, and plan the use of resources needed to anticipate, prevent, and/or resolve a threat or act of terrorism. The Federal Government exercises primary authority to prevent, preempt, and terminate threats or acts of terrorism and to apprehend and prosecute the perpetrators; State and local governments provide assistance as required. Crisis management is predominantly a law enforcement response.

"Consequence management" refers to measures to protect public health and safety, restore essential government services, and provide emergency relief to governments, businesses, and individuals affected by the consequences of terrorism. State and local governments exercise primary authority to respond to the consequences of terrorism; the Federal Government provides assistance as required. Consequence management is generally a multifunction response coordinated by emergency management.



Refer to The Homeland Defense & DSCA SMARTbook (Protecting the Homeland / Defense Support to Civil Authority) for further discussion. Topics and references include homeland defense (JP 3-28), defense support of civil authorities (JP 3-28), Army support of civil authorities (ADRP 3-28), multi-service DSCA TTPs (ATP 3-28.1/MCWP 3-36.2), DSCA liaison officer toolkit (GTA 90-01-020), key legal and policy documents, and specific hazard and planning guidance.

Disaster Declarations

Ref: FEMA.GOV (https://www.fema.gov/disasters/grid/year)

Every year, citizens of the United States, in all regions of the Nation, are threatened with loss of life and property as the result of natural disasters. In the past decade alone, between 2004 and 2014, natural disasters of considerable severity resulted in 699 Presidential Disaster Declarations, an average of nearly six per month.

Disaster Declarations (by Year since 2004)

YEAR	Major Disaster Declarations	Emergency Declarations	Fire Management Assistance Declarations	Total
2014	45	6	33	84
2013	62	5	28	95
2012	47	16	49	112
2011	99	29	114	242
2010	81	9	18	108
2009	59	7	49	115
2008	75	17	51	143
2007	63	13	60	136
2006	52	5	86	143
2005	48	68	39	155
2004	68	7	43	118

Major Disasters

A Major Disaster can be a result of hurricanes, earthquakes, flood, tornados or major fires; the President then determines warrants supplemental federal aid. The event must be clearly more than state or local governments can handle alone. If declared, funding comes from the President's Disaster Relief Fund, managed by FEMA and disaster aid programs of other participating federal agencies.

Presidential Major Disaster Declaration

A Presidential Major Disaster Declaration puts into motion long-term federal recovery programs, some of which are matched by state programs and designed to help disaster victims, businesses and public entities.

Emergency Declaration

An Emergency Declaration is more limited in scope and without the long-term federal recovery programs of a Major Disaster Declaration. Generally, federal assistance and funding are provided to meet a specific emergency need or to help prevent a major disaster from occurring.

and is commonly used to describe both the catastrophic deaths of thousands in natural events, like an earthquake-triggered tsunami, or mundane man-made events, like an unsuccessful dinner party. This causes a difficulty: because it is used in so many ways, the word "disaster" does not convey the real impact of an event when we try to use it to describe something that is incredibly dangerous and disruptive.

So what do we do with this situation of loose definition? The answer is to think about what makes an event into a disaster and then think about how those events will affect us and our loved ones. When you think about it, there is a lot of information about disasters that can be discovered prior to the event that is helpful in making choices, plans, and preparations *before* the event. What information about the storm is useful to people before the storm happens?

The "BIG 8": Disaster Qualifiers

When people talk about disasters, they talk about causes and effects. The terms we use to describe a disaster and the methods we use to measure its effects become the definition of the disaster. For example, F5 tornado, Category 3 hurricane, and 8.0 earthquake. But these are generalized descriptions that do not give us enough information to protect ourselves.

There are eight questions to consider when thinking about any disaster: where can it happen, what will happen when, how big will it be, how long will it last, how much reaction time will I have, what will be left, who can help me, and what comes next? Although you may not be able to answer all eight questions for any given situation, it is very rare that you will not be able to answer, or make a good guess on, five or more of them. By gathering information on as many of these questions as you can answer, you make an informed plan and decision on just about any situation, man-made or natural.

See facing page for further discussion and an overview.

#1. Areas of Known Occurrence, Possibility (Where can it happen?)

Areas of Known Occurrence are determined by historical records and known science, which identify the possibility of a disaster based on situation, location, season, or a combination of the three. There is little mystery here, and this information allows us to make choices well in advance of an event. Locations near volcanoes and on fault lines are directly susceptible to the effects of eruptions and earthquakes. Coastlines are susceptible to tsunamis and seasonally susceptible to storm surges and hurricanes. Inland areas can be susceptible to seasonal dangers of tornadoes and fires. If you live in the central U.S., each spring you will need to be aware of tornadoes. The area from Texas through Oklahoma, Kansas, Nebraska, and into Iowa is called Tornado Alley for a good reason. Tornadoes are also possible in all other parts of the U.S., but are not as frequent. If you live in California along the San Andreas Fault, you know you will eventually be affected by earthquakes because you live in an Earthquake Zone. If you live in the mountains or the high plains, you know that there is a high probability of seasonal blizzards and ice storms. You can use this knowledge to determine the possibility of your being affected by a particular type of disaster.

#2. Scales and Measurements, Predictability (What will happen when?)

Disasters are measured in different ways, not just in the difference of the aspects of the event as in a flood being different than a fire, but also in *what* is actually measured and *when* it is measured. For this reason some disaster measurements are useful prior to the event and others are not. Measurements taken for slow-devel-

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We can take these eight questions and express them in quantifiable, or measurable, terms: Areas of Known Occurrence, Events and Measurements, Area of Effect, Duration of Effect, Quick or Slow Onset, Destruction of Infrastructure, Disruptions of Services, and Aftermath. Although history will record each of these aspects in full after a disaster, by looking at each question, we can discern the potential for some of the answers before the event.

1. **Where can it happen — Areas of Known Occurrence**
2. **What will happen when — Scales and Measurements**
3. **How big will it be — Area of Effect**
4. **How long will it last — Duration of Effect**
5. **How much reaction time will I have — Quick or Slow Onset**
6. **What will be left — Destruction of Infrastructure**
7. **Who can help me — Disruptions of Services**
8. **What comes next — Aftermath**

The point here is to build your ability to look at a situation and analyze the information you have, to think about what is happening and be able to make an informed decision based on your specific situation and the general knowledge of how the events usually progress.

oping events or events where the threat is determined by the measurement of pre-event conditions, as in the case of wildfire and volcano warnings, can provide useful information prior to the event in respect to the magnitude of a potential disaster. In the case of events where it takes time for the event itself to build up the energy required to become a disaster, such as hurricanes, warnings are based on measurements and movements of the existing storm, once again very useful information prior to the event. At the other end of the spectrum are tornadoes and earthquakes, which are measured after the event and based on the amount of damage done or energy released.

This has a lot to do with the predictability and onset time of an event. The longer it takes for an event to develop into a disaster situation, the more time there is to assess the situation and predict the event's effects. Keep this in mind as it is a major clue to the amount of time you will have to respond to the event.

These criteria work just as well for man-made disasters as for natural ones, although in the case of man-made disasters, they tend to be quick-onset and long-duration based on two factors: first is our occasional overconfidence in the control we have over nature and technology, and second is man's tendency to default to the kinetic tools of political diplomacy, i.e. conduct war and commit terrorism. Any war, just or villainous, causes disaster conditions. Information on the methods of measurement for specific disaster types can be found with the disaster summaries.

#3. Area of Effect (How big will it be?)

Area of effect has two major considerations: first is how far people have to travel to escape the area of effect, and second, how much relief, in the form of rescuers, equipment, and material resources, must move into the area of effect in order to effectively help the population after a disaster.

This aspect can be highly variable or very specific based on the type of event. It is best used in conjunction with other criteria such as destruction, disruption, and duration. As an example, when considering if emergency services will be available after a disaster, there will be differences between different events. Consider these three scenarios: a 30-second earthquake that is felt in several states, but does relatively little damage; a tornado that is a quarter-mile wide, is on the ground for 30 minutes, and travels along a 15-mile path in a highly populated urban area before rising back into the clouds; and a hurricane core that is 30 miles wide, lasts for three days, and travels slowly inland for 100 miles, dropping four days of rain, causing massive flooding well beyond the coastal storm surge. The short-term effects of the tornado may cause the greatest number of deaths, the hurricane the greatest amount of property damage and disruption of services, and the earthquake the greatest area of effect. From this we learn that area of effect is not directly tied to intensity or level of devastation, but can relate to how far people or services will have to travel to get into or out of the area of effect.

#4. Duration of Effect (How long will it last?)

Duration of effect refers to not only how long the causal event lasts, but also how long the effects last. This is not as simple as it may seem: a hurricane that brings a week of rain may only have a core landfall of 12 hours before dissipating into a storm front that lasts for another three days. This would have three distinct phases of effect: first being the wind and storm surge damage from the hurricane core, lasting several hours; second would be potential flooding from the rains, which may take weeks to recede; and third is how long it would take for all the infrastructure damaged in the storm to be fixed or replaced so that people could get back to normal living. An important point here is that duration of effects can be sequential, with multiple events causing effects over an extended duration.

"SO WHAT" Words

The word disaster originally referred to an astrologically unfavorable aspect to a planet or star that foretold of a great misfortune. This original use holds an important key to the meaning of the word disaster as it is used today. It refers to something that we know can and may happen that will affect us in a negative fashion. If a disaster is an event that is both *possible* and to some extent *probable*, it is *predictable*. Anything we can predict, we can prepare for. The words we will cover are called "So What" words. They are provided to offer food for thought and to inspire you to consider both what they mean and what they mean to you and your survival.

The language of disaster is somewhat confusing. There are several different definitions and mixed meanings not only for the word disaster, but also for related words like hazard, risk, and threat. The issue of a lack of consensus on the concise definition of key terms is a major point of discussion in emergency management. As of the writing of this book, there is no definitive set of definitions for the common terms used in emergency management. The use of these common terms in government disaster plans is mostly concerned with jurisdictions, planning responsibilities, criteria for government emergency assistance, and other things that define what local, state, and federal government is responsible for doing before, during, and after a disaster. "Which definitions and concepts will be used depend less on their inherent or scientific merits but more on political considerations."[2] This is very important when thinking about political will and aftermath.

The real problems arise when the same words are used to communicate different meanings depending upon the context in which they are used. This means some words used to communicate disaster information will have more than one meaning depending upon when they are spoken, before or after a disaster takes place. This makes it particularly important to understand what the words meant *at the time* they were spoken.

For this reason it is important to look at the words used to describe disasters and determine what it is they are trying to convey, the "So What" factor. There are a few words that will be particularly vital for you to understand and that may have a significant effect on your ability to survive. These "So What" words are disaster, survivor, capacity, capability, hazard, threat, risk, watch, warning, mandatory, rescue, relief, assistance, and relocation. This list is a starting place for your understanding, and as you study your own situation, you may want to add more words and definitions to this list.

Each one of these words has a meaning that is linked to two important aspects: first, how you choose to prepare and respond when you hear the words used, and second, how the government uses the word to describe what they are capable of doing and willing to do in response to a disaster.

- Disaster
- Survivor
- Capability
- Capacity
- Hazard
- Threat
- Risk
- Watch
- Warning
- Mandatory
- Rescue
- Relief
- Assistance
- Relocation

II. How Response Works (Response Capability)

Before we get into individual planning and preparation, we need to take a look at the local, state, and federal response capabilities that will be activated during a disaster. The roles, responsibilities, capabilities and resources of first responders and incident-response agencies should be defined so that appropriate and realistic expectations can be made for their performance. Starting from the local level and moving to organizations from higher echelons of government, an accurate picture can be portrayed of the capabilities of the different levels of responders. This does not include the wide variety of assistance that states and communities will receive to rebuild communities after the immediate threats of the event are mitigated.

(U.S. Army photo by Spc. Joseph Davis/Released)

The Goal of Response

As you read through these explanations of the capabilities of the different jurisdictions of government, understand that each responding element will have specific tasks they want to accomplish and an order in which they will want to get them done. The plan of every response effort will *always* follow this simple set of priorities: Security, Rescue, Relief, and Recovery.

Security

Before anyone can be rescued, the responding agency will make sure that the rescuers will not be unreasonably exposed to hazards and threats that may cause them to be injured or killed in their attempts to save people's lives. This includes protecting both the public and responders from environmental hazards and threats in addition to protection from violence and civil unrest. When an area is too dangerous to enter, rescue is delayed.

What is too dangerous? Generally speaking there are two qualifiers. First, although there is risk in any rescue scenario, the responder has to have a greater chance of successful rescue than of death or injury to themselves. This also includes preservation of the equipment and the capacity to continue their mission. The men and women who take these jobs are brave and capable and will face considerable personal risk to save a person in danger. Secondly, the area must be free of violent attackers. The threat of violence will stop a rescue effort because responders will not expose themselves or their equipment to a significant threat of violence; this is not the kind of risk they are willing to take. Rescuers will not be allowed to do their jobs until law enforcement has made the area safe for them to enter. In the case of a major disaster, it may take hours or days to establish security.

Rescue

The first priority after security is established is to rescue people in immediate danger from death or injury. Putting out fires, removing people from flood waters and collapsed buildings, providing first aid, transportation to medical facilities, and dealing with other immediate threats, post-disaster hardships are the rescuers' major concerns. An important distinction is that "rescue" only saves people from an immediate threat; once your life is no longer in danger, rescue stops. Some people may have an expectation that their rescuers will do other things they may need, like transport them to a relief center or provide them with food. Helping people not in immediate danger is called relief and is not the goal of rescue.

Relief and Recovery

Relief and recovery can take place at the same time, but encompass slightly different aspects. Relief provides for the basics of survival, primarily in the form of shelter, water, and food, but also in the form of medical care for injuries that are not life-threatening, transportation to safer or better resourced locations, and assistance in reuniting families separated by the disaster. In many cases these services will be provided by religious or community organizations. Not all relief locations will be the same, and different providers will be capable of filling different needs. In recovery, responders will work on the collection and proper handling of the dead, clearing of streets, and restoration of utilities like power, water, and sanitation. If you survive a disaster without major injury or need for rescue, you may have to be patient and wait until the rescue phase is over for recovery to start so you can get to relief. Keep these ideas in mind as you read through the capabilities' descriptions below.

Tiered Response (Local, State, Federal)

Tiered response means that disasters are managed and responded to at the lowest level and only when it is determined that more help is required are higher levels of assistance requested for the response. This is important because the local government is responsible for disaster response and will use its own capabilities before asking for help from the state. Most disasters can be responded to with local resources. Some disasters require state assistance. Few disasters are so large that they require federal resources for a complete and timely response effort. Understand that federal disaster response is different from federal disaster relief. In relief the federal government allocates money to the state to help with recovery after the disaster is over. In response the federal government sends people and resources to assist with saving lives and stabilizing the situation. Examples of federal response are Hurricane Katrina, Super Storm Sandy, and the BP oil spill.

In any disaster response there is a specific set of rules for what level of government (or their related assistance agencies) has the responsibility to respond first, who is allowed to assist, and what must be done to ask for more help. As you read through all the things each level of government does, understand that all levels of government are motivated by the same goal: public safety, relief, and economic

Posse Comitatus and Martial Law

Posse Comitatus

Originally a part of ancient law, Posse Comitatus, or power of the county, was used to call able-bodied men to the defense of the community. On the American western frontier, a sheriff could call up a posse of local men to assist him in law enforcement. Although not used often in modern times, many county sheriffs across the U.S. still have the authority to "command and take with him the power of the county or a part thereof, to aid him in the execution of the duties of his office." This specifically means private citizens with personal weapons under the command of the sheriff and conducting law enforcement under his authority.

When we talk about Posse Comitatus today, we usually are making reference to the Posse Comitatus Act of 1879 and related amendments. Basically this law says that a local sheriff can't go to a military installation, base, or camp and ask for active-duty personnel, weapons, ammunition, or equipment to augment his department or office. Those requests have to go through the governor to the president. The National Guard is not subject to the Posse Comitatus Act when called up by the governor. When the president calls on federal troops, they are not subject to Posse Comitatus either. In both cases the soldiers provide passive support, which means they are not given the full authority of police discretionary powers.

They are limited in their authority to search or arrest and are often used to augment civilian law enforcement. They are authorized to detain and defend. The military ability to detain civilians is formidable, and detention does not provide all of the same legal rights and protections as arrest. The authority to defend is equally powerful. Soldiers can deny civilians access to designated areas regardless of the status of the area as public or private and have a specific set of rules for the use of force they use to determine how much force can be used to enforce the restriction of movement or defense of resources, equipment, or themselves.

The rules for the use of force are used in the support of domestic law enforcement because Rules of Engagement are for combat and not to be used when dealing with the American public. It is important to recognize and appreciate that the military takes care to make that distinction. Soldiers nonetheless have the authority to use force when appropriate within the use of force continuum. This graduated scale of response to threat actions on the part of hostile or aggravated citizenry ranges from self-defense to use of deadly force.

Martial Law

Martial law is not automatically a bad thing. When an aftermath situation degrades to the point of complete loss of rule of law and there is a threat of violence against the population (even if from within the population itself), then the balance between the competing aspects of liberty and security must favor security. That said, marital law is a very dangerous tool that should be used in only the most dire of circumstances and then only for a short amount of time. A short description of martial law will explain why.

Martial law is when the president or the governor suspends local government and constitutional civil liberty for the necessity of security. This places the whole process of rule of law, including law enforcement, arrest authority, and confinement in the hands of the military. This is a uniformly disliked and highly discouraged last-resort solution. It suspends jurisdiction of local elected authority and places a huge burden on the federal forces that are made responsible for all rule-of-law functions. Given the level of preparation and professional capability of local and state governments, the enactment of martial law is extremely unlikely in any situation other than widespread rampant lawlessness or violent civil unrest. Even then there would need to be some indication of organized insurrection before civil liberty and constitutional protections would be superseded by this extreme measure.

NOTE: There are some groups of civilians that form paramilitary groups and claim allegiance to the Constitution rather than service to the people and laws of the states where they muster. By not recognizing the authority of the governors, who are lawfully elected by the people of the represented states, these paramilitary organizations are not militia in the sense of the definition provided in the Constitution. Any formation of military or paramilitary power that does not recognize the legitimate elected government is a competitor and rival to legitimate government of the people, by the people, and for the people.

In times of disaster the three federally standardized force structures of the National Guard, reserve, and regular forces can provide military support to civilian authority in two ways: active-duty and reserve units under Title 10 of the U.S. Code and National Guard units on state active duty under Title 32 of the U.S. Code. For all intents and purposes, the only difference between the two is the governor can call out the National Guard of their respective state and, if the situation calls for it, the president can call out regular and reserve forces in response to a state's request for assistance. Control over and funding of military elements is a big issue during response efforts.

Overall, the consensus is that the local preparedness for response to a WMD terrorist disaster is nominal, meaning effective but very limited. To the extent that hazardous material preparedness applies to the CBRNE arena, some basic protective and containment skills are planned, resourced, and practiced. However, attention must be applied to resource management, planning, and training for the unique nature of CBRNE terrorist disasters. Until a much higher national standard is reached through training and funding of local agencies, there will be a requirement for assistance from federal laboratories in the identification and mitigation of CBRNE or catastrophic hazardous-material events. If federal military forces are the only level of government that can operate effectively in a CBRNE area of effect, that area is, by default, under the control of the military, even if not officially under martial law.

Event preparation and response planning for natural disasters and accidents is based on educated assumptions on the needs of the area and the level of resources available for preparation. The current level of planning is prudent and allows for an adequate response to a vast majority of situations and events that may be encountered by first responders. What is generally agreed upon is that a terrorist attack will quickly overwhelm any first-responder element and most likely the state response as well. Only through open communication and effective cooperation can local, state, and federal agencies come together to coordinate adequate responses to catastrophic events.

Incident Command System, National Incident Management System, & Unified Command

Topics that are important tend to have lots of rules and regulations to govern them. Examples of this are human resources hiring practices and tax law; both are important to government, and both are incredibly boring to read when you are not specifically interested in the subject matter. The same is true of Incident Command. What follows is a rather dry and just as important explanation of the Incident Command System and Unified Command. Although you are not in a disaster now, when one comes along you will have a specific interest in how ICS works. It is a short section and has information worth knowing.

The command and control system used by civilian agencies to respond to almost any kind of disaster situation is called the Incident Command System (ICS). According to the 2003 National Response Team Incident Command System/Unified Command (ICS/UC) Technical Assistance Document, civilian agencies must use a command-and-coordination method designed specifically to interact with other agencies.[11]

National Incident Management System (NIMS) & the National Response Framework (NRF)

The **National Response Framework (NRF)** is a guide to how the Nation conducts all-hazards response. It builds upon the NIMS coordinating structures to align key roles and responsibilities across the Nation, linking all levels of government, nongovernmental organizations, and the private sector.

The **National Incident Management System (NIMS)** provides the incident management basis for the National Response Framework (NRF) and defines standard command and management structures. Standardizing national response doctrine on NIMS provides a consistent, nationwide template to enable the whole community to work together to prevent, protect against, mitigate, respond to, and recover from the effects of incidents regardless of cause, size, location, or complexity.

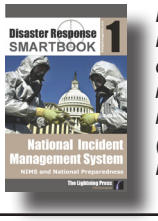
The NRF and NIMS are two parts of a combined effort with the NRF providing the framework for the goals of response and NIMS providing the active development of systems to meet these goals within standardized response efforts. The goals and the systems are interlocked and one program is not "over" the other.

National Directives HSPD-7 HSPD-8

The NRF and NIMS are the bridge from national strategy to operational response where the priorities of life safety, stabilization, & preservation are the focus of the coordination.

National Response Framework (NRF) Guidance and Goals	National Incident Management System (NIMS) Methods & Best Practices
❑ Prevention	❑ Preparedness
❑ Protection	❑ Communications and Information Management
❑ Mitigation	❑ Resource Management
❑ Response	❑ Command and Management
❑ Recovery	❑ Ongoing Management and Maintenance

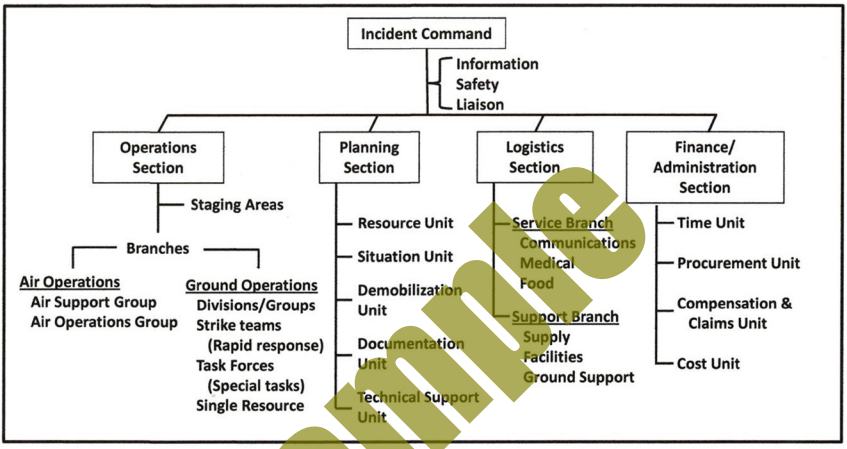
Together the NRF and NIMS provide the basic structure of standardized goals and methods in order to develop and maintain a response capacity that is flexible and responsive to the needs of the nation and its people by promoting these capabilities at the regional, state, tribal, and local level.



Refer to Disaster Response SMARTbook 1 - National Incident Management System (NIMS and National Preparedness) for further discussion of NIMS and the National Response Framework. Topics include national-level plans, elements of national authority, national response framework (NRF), national incident management system (NIMS), national- and regional-level resource management, the role of FEMA/regional-to-state connections, and training requirements.

The Incident Command System (ICS)

The Incident Command System (ICS) is a sub-component of NIMS and provides specific instruction as to the methods of incident response at the regional, state, tribal, and local level. ICS is a standardized on-scene incident-management concept designed specifically to allow responders to fit into an integrated organizational structure. It can expand to meet the complexity and demands of any single incident or multiple incidents without being hindered by jurisdictional boundaries.[12] The ICS enables integrated communication and planning by establishing a manageable span of control, and it divides an emergency response into five manageable functions essential for emergency response operations: Command, Operations, Planning, Logistics, and Finance & Administration.



The need for, and development of, a standardized method of incident response was based upon the lessons learned following a series of catastrophic fires in California in the 1970s. Property damage ran into the millions, and many people died or were injured. The personnel assigned to determine the causes of these disasters studied the available records and discovered that response problems could rarely be attributed to lack of resources or failure of tactics. The failures that caused death and destruction was specifically found in the lack of effective communication and the lack of coordination of effort.

The modular organization of the ICS allows responders to scale their efforts and apply the parts of the ICS structure that best meet the demands of the incident. There are no hard and fast rules for when or how to expand the ICS organization. Many incidents will never require the activation of planning, logistics, or finance/administration sections, while others will require some or all of them to be established. A major advantage of the ICS organization is the ability to fill only those parts of the organization that are required for the response. The ICS organization adheres to a “form follows function” philosophy. The organization should reflect only what is required to meet planned response objectives.

ICS Benefits

These “best practices” provide some very important advantages. ICS allows for the efficient use of resources which leads to the achievement of response objectives in the shortest time frame and at the lowest cost (in both lives and resources). These efficiencies help to ensure the safety of everyone in the incident area of effect. This has two major impacts; first, it provides the greatest opportunity for minimizing the loss of life, property, and infrastructure. And second, it minimizes the loss or injury of responding personnel, equipment, and materials thus preserving operational capacity.

III. Federal Disaster Response

The next sections will address what the government is going to do in a disaster and the rules that govern who is in control of restoring governance in the aftermath of a disaster. This is important because it speaks to the intent of the government and importance of our trusting that government has our best interests in mind and will be successful in assisting not just in our survival, but in our recovery from a disaster.

When we examine the plans for the national response to disasters, we will find the government is taking special steps to ensure that hope (security and economic opportunity), voice (representative form of government and open communication), and justice (rule of law) survive. This chapter looks at the specific plans and addresses, in a general manner, the goals and methods used in a recovery effort as articulated in the separate government plans. We will then see how the different plans fit together to guide and coordinate the efforts of people working from the highest levels of government leadership down to the efforts of state and local leadership, agencies, and service providers.

Note: Much of the information provided here is taken verbatim from plans and government documents or extracted from those documents and placed in context with information from other plans. Specific quotes and data neither have endnotes nor are individually referenced, but every source is identified in the body of the discussion. You are encouraged to go online or to their local government and get copies of these plans and read them themselves. There is significant confusion and misinterpretation of these plans that can be easily avoided just by reading the plans yourself instead of letting someone else tell you what they say. The reader can take the word of the author and the author's intent is to accurately inform. But, should you have questions and want to learn more on your own, this chapter can serve as a study guide should you wish to pursue your own in-depth review of the government's Continuity of Operation Plan (COOP) and Continuity of government (COG) plans. This is an important part of knowing for yourself, thinking for yourself, and making your own plans that will work for you.

Before we get into the individual plans, it would be prudent to examine what exactly government response plans *need* to accomplish. When we say need, we mean what the plans should accomplish to secure, rescue, relieve, and assist the people. We can then compare this to what the government planners *want* to accomplish and see how they match up. It is very important that we as citizens understand that what we need government to provide is what our government wants to accomplish. If these two aspects do not match up, then the government will not have the legitimacy of our consent as the governed. But when they do match up, we can understand that even though times are difficult, the government is in fact working in our best interests.

What we want and need the government to provide for us is governance. In our discussion from section I, we framed our definition of aftermath by the disruption of governance: the government's ability to provide security (police, fire service, and emergency rescue), public services (health, education, electrical, water, and sanitation), and political participation and accountability (the right to vote and access to courts and the justice system, the rule of law). When these things are disrupted, there is a general lack of opportunity to conduct economic activities and people will not have the stability required to make a living, exercise their individual or social liberties, or pursue good quality of life. As general as that sounds, life, liberty, and

Understanding Homeland Security, Homeland Defense, & DSCA

One of the greatest challenges to understanding Federal disaster response and the mechanisms of action/response is understanding the base definitions and differences between homeland security, homeland defense, and defense support to civil authority.

The terms homeland security, homeland defense, and defense support to civil authority are not interchangeable. In addition to the federal-level activities, there are related activities conducted by state, local, tribal and territorial governments that may occur simultaneously.

Homeland Security (HS)

Homeland security is a concerted national effort to prevent terrorist attacks within the US; reduce America's vulnerability to terrorism, major disasters, and other emergencies; and minimize the damage and recover from attacks, major disasters, and other emergencies that occur. HS is an integral element of a broader US national security and domestic policy. Protecting the US from terrorism is the cornerstone of HS.

HS describes the intersection of evolving threats and hazards with traditional governmental and civic responsibilities for civil defense, emergency response, law enforcement, customs, border control, and immigration. In combining these responsibilities under one overarching construct, HS breaks down longstanding stovepipes of activity that have been exploited by those seeking to harm the US.

The President of the United States is uniquely responsible for the safety, security, and resilience of the nation. The President leads the overall HS policy direction and coordination. Individual United States Government (USG) departments and agencies, in turn, are empowered by law and policy to fulfill various aspects of the HS mission. DHS has the following missions:

- Preventing terrorism and enhancing security
- Securing and managing US borders
- Enforcing and administering immigration laws
- Safeguarding and securing cyberspace
- Ensuring resilience to disasters
- However, as a distributed system, no single entity has the mission to directly manage all aspects of HS

Homeland Defense (HD)

Homeland defense is the protection of US sovereign territory, the domestic population, and critical infrastructures against external threats and aggression or other threats, as directed by the President. The Department of Defense (DOD) is the federal agency with lead responsibility for HD, which may be executed by DOD alone or include support from other USG departments and agencies.

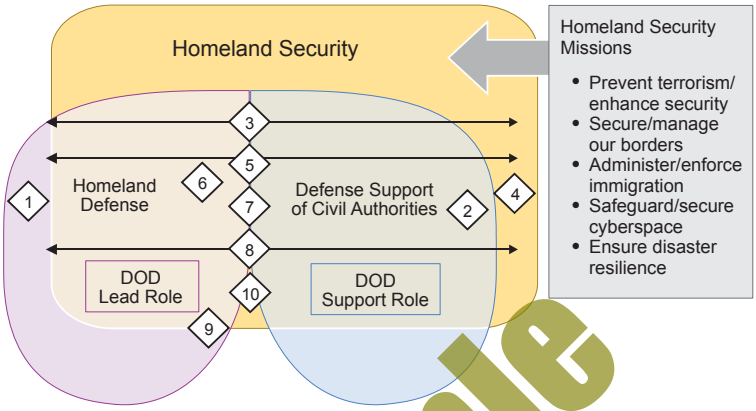
Defense Support to Civil Authority (DSCA)

Defense Support of Civil Authorities (DSCA) is support provided in response to requests for assistance from civil authorities for domestic emergencies, law enforcement support, and other domestic activities, or from qualifying entities for special events.

The Armed Forces of the United States and Department of Defense (DOD) agencies may be called upon for defense support of civil authorities (DSCA) to support a **whole-of-government** response in support of civil authorities, although not specifically organized, trained, or equipped for the support of civil authorities. The US Armed Forces have a historic precedent and enduring role in supporting civil authorities during times of emergency, and this role is codified in **national defense strategy** as a primary mission of DOD.

Homeland Defense Relationships

Relationships Between Homeland Defense, Defense Support of Civil Authorities, and Homeland Security Missions



Legend

CBRN	chemical, biological, radiological, and nuclear
DOD	Department of Defense
FAA	Federal Aviation Administration
NORAD	North American Aerospace Defense Command

1. ballistic missile defense
2. DOD support for disaster relief and law enforcement activities
3. CBRN consequence management
4. airport security
5. maritime security
6. FAA support to DOD (NORAD)
7. emergency preparedness
8. DOD/community relations
9. National Guard state activity duty (in exceptional circumstances)
10. cybersecurity

Ref: JP 3-27, Homeland Defense, fig. A-1, p. A-2.

Refer to our series of related Homeland Defense, DSCA, Disaster and National Response SMARTbooks for further discussion. The US Armed Forces have a historic precedent and enduring role in supporting civil authorities during times of emergency, and this role is codified in national defense strategy as a primary mission of DOD. In the past decade alone, natural disasters of considerable severity resulted in 699 Presidential Disaster Declarations, an average of nearly six per month. Disaster management (or emergency management) is the term used to designate the efforts of communities or businesses to plan for and coordinate all the personnel and materials required to either mitigate the effects of, or recover from, natural or man-made disasters, or acts of terrorism.

the pursuit of happiness are the desired goals. As we review the government plans, see if they meet your expectations. Choose for yourself whether or not you believe the plans to be trustworthy because it is important for you to have confidence in your government.

The U.S. government's plans are expressly written for the preservation of the U.S. form of government and the well-being of the U.S. population. The plans are linked, cooperative, and all focused on the same common goals. We know this for two reasons: first, that is the way the plans are written, and second, these are the very same methods our government uses in stability operations in the aftermath of armed conflict in other nations. Regardless of the fact that war is a political tool, it is still a form of disaster. The disruptions of governance found in armed conflict are very similar to those found during a large-scale natural disaster. By knowing what the government's goals are when reestablishing stability and governance in international post-conflict areas, we can anticipate the government's goals when reestablishing stability in a domestic post-disaster situation. It is very important to differentiate goals from methods when looking at international stability operations in relation to domestic disaster relief. We can see within the plans that the methods are very different. It may not be a comforting idea to some people, but the similarity of goals is an appropriate and realistic expectation.

Federal Plan Types and Tasks

Federal plans are designed to do different things at different times. When you find a plan that looks incomplete, think about what that plan was designed to do. No plan does everything, so when one plan appears lacking, the chances are good there is another plan to cover the issue you are concerned about. Federal plans fall into one of these three major categories: Continuity of Operation (COOP), Continuity of government (COG), and Enduring Constitutional Government (ECG). Each has special components to meet specific requirements. We will not go into great detail here to describe the mechanics of these plans, but knowing what each kind of plan is designed to accomplish is very helpful in understanding how the different plans work together.

Continuity of Operation Plan, or COOP

COOPs are *individual organizational efforts* within organizations, agencies, or departments within a branch of government and provide guidance, both specific and general, as to how the individual organizations, agencies, or departments are to ensure they can continue to perform their respective duties.

Continuity of Government, or COG

COG plans are *coordinated organizational efforts within branches of government* to ensure the eight National Essential Functions (which will be described in detail soon) are continuously protected, supported, and provided.

Enduring Constitutional Government, or ECG

ECG plans are *cooperative efforts between the three branches of government* — legislative, executive, and judicial — coordinated by the president, where each branch does its part in a mutually supporting and friendly manner to ensure the eight National Essential Functions are continuously protected, supported, and provided for the express purpose of preserving the constitutional framework under which the nation is governed.

Emergency Support Functions (ESFs)

The National Response Framework outlines the specific ways the federal government will interact with state and local government through 15 Emergency Support Functions (ESF). These 15 ESFs are the methods the federal government uses to meet needs of state and local jurisdictions in their efforts to maintain the eight National Essential Functions identified in Federal Continuity Directive 1. ESFs may be selectively activated for both Stafford Act (federal help without asking) and non–Stafford Act (governor asks for help) incidents under circumstances as defined in HSPD-5 (the rules for how to help). They serve the needs of disaster response in preparation, rescue, aftermath mitigation, and recovery to provide the essential aspects of governance: security, essential services, and access to political process (rule of law).

(Photo by Command Sgt. Maj. Dennis Green, Virginia National Guard/Released)

The 15 Emergency Support Functions are:

ESF #1 — Transportation (Essential Services)

ESF Coordinator: Department of Transportation

Aviation/airspace management and control

Transportation safety

Restoration and recovery of transportation infrastructure

Movement restrictions

Damage and impact assessment

Discussion: Transportation is part of a full spectrum of response being active in preparation, rescue, aftermath mitigation, and recovery. It can be generally rolled up into three main concepts: movement management, transportation safety, and movement restriction.

Movement management is a big part of logistics and covers everything from air traffic control to making sure parking lots don't get overcrowded with trucks bringing in supplies. It also includes clearing and repair of transportation infrastructure. In this capacity

ESF 1 works closely with ESF 3, Public Works and Engineering, and ESF 7, Logistics Management and Resource Support. When the government looks at movement, they will look at all options.

Transportation safety ensures that only safe infrastructure is used and transportation operations are conducted safely. This includes things like rules for driver rest, the number of trucks allowed on the road (vehicle density), and where different kinds of vehicles are allowed to go (weight limitations on roads and bridges).

Movement restriction is a significant issue when people are trying to return to their homes after a disaster. The areas in question must be determined safe and secure to ensure the public will not be in undue danger when returning to their homes. Restriction is primarily to protect life and preserve rescue and response resources. They will not open an area to the public when there is a significant chance they will have to rescue those same people to get them back out.

How people are moved: As resources move into a disaster area, transportation will be moving people out of the disaster area. This will include moving on your own to a collection point where you will be gathered with other survivors and transported by truck, bus, or whatever other means are available to a relocation center. At the relocation center you will wait for mass transportation to a relief center where you can stay until you are able to move again on your own. The names for collection point, relocation center, and relief center may be different, but the functions of transporting and sustaining the population will be the same.

The plans for disaster relief almost always include helping lots of people out of the affected area. This means collecting people up and moving them by the safest mass transportation method possible to a secure location where power, water, food, and shelter are available and sustainable. You need to think about this and be ready for it if you plan to use this method of movement. You will have restrictions on what you can carry. This may be as little as what you can fit on your lap. Once you are in the transportation process, you will need to follow instructions, which may include long periods of waiting in uncomfortable conditions until you are told to move. Your final destination will be determined by others and you will be informed of where you will be going, but this may change as the situation develops. The trade-off for this scary and uncomfortable experience is that you will be moved to security, shelter, and sustainment.

ESF #2 — Communications (Essential Services)

ESF Coordinator: DHS (National Communications System)

Coordination with telecommunications and information technology industries

Restoration and repair of telecommunications infrastructure

Protection, restoration, and sustainment of national cyber and information technology resources

Oversight of communications within the federal incident management and response structures

Discussion: Communication is another full-spectrum response element (preparation, rescue, aftermath mitigation, and recovery) and a major contributor in disaster-response success. Because communications infrastructure is often destroyed in a disaster, there is a whole functional area dedicated to bringing in and standing up a completely separate communications infrastructure until the original systems can be repaired or replaced. There may be limitations on personal communication until public communication systems (cell towers and internet access) are back online. These limitations are not “denial of communication” or “denial of voice,” but rather limitations on system availability and prioritized use given to emergency responders.

Continued on next page

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take a much as five years in the case of major disasters like Hurricanes Katrina and Rita or Super-storm Sandy. This leads to the second reason; a community that can get back up on its own requires fewer resources from the federal government for a shorter duration. It is less expensive for the federal government to spend the money up front to help keep communities strong, resilient and as independent as possible.

Recovery Support Functions

The National Disaster Recovery Framework's (NDRF's) coordinating structure for these Recovery Support Functions (RSFs) are:

Community Planning & Capacity Building

Economic

Health and Social Services

Housing

Infrastructure Systems

Natural and Cultural Resources

Notice that these Recovery Support Functions are not numbered, they are not part of the Incident Command System and do not fall under any portion of the National Incident Management System. But the primary agencies executing these support functions all have a role in both ICE and NIMS. The skills and methods provided by the RSF are for building and restoring communities before and after a disaster. This demonstrates the federal government's commitment to states and communities. This is an excellent example of the scope of the National Response Framework & National Disaster Recovery Framework and the positive role the federal government can play in providing effective governance.

A. Community Planning and Capacity Building (Recovery Support Function)

Coordinating Agency

Department of Homeland Security/Federal Emergency Management Agency

Primary Agencies

Department of Homeland Security/Federal Emergency Management Agency and Health and Human Services

Recovery Support Functions (RSFs)

(FEMA photo/Andrea Booher)

Each function is outlined by identifying key aspects of its form and function. Prior to describing the function it is prudent to review what the identifiers really mean.

Coordinating Agency
Planners - Primary agency overseeing the execution of the support function.

Primary Agencies
Doers - Primary agency(s) executing the support function

Supporting Organizations
Stakeholder within the Government – Other Government agencies that will be affected by, or provide assistance in, these support functions.

Mission
This statement represents the agencies overall goal.

Function
This statement reflects the methods the supporting agencies will use to meet the goals identified in the Mission statement.

Pre-disaster function
Actions and resources made available to communities prior to a disaster to help them become more prepared for a disaster.

Post-disaster function
The actions for the actual recovery assistance part of disaster recovery.

Outcomes
This statement identifies the desired results of the recovery efforts.

Chap 2

I. Personal Preparedness

Before you can begin to prepare for a disaster, you should consider two questions that are specifically about you and your situation:

1) What can I do to prepare?

2) How much do I want to do to prepare?

Your answers to these questions will drive all of the choices and preparations you make for yourself and your family. There is no right or wrong answer. There is only your choice. Each choice comes with its own benefits and drawbacks. What follows is a discussion about different attitudes towards the possibility of a disaster and your choices on how to care for yourself in a disaster situation. It addresses what kind of plans different people may want to make and the scale and intensity of preparation and suggests appropriate levels of preparedness to provide a real chance of survival without undue stress on personal resources.

(FEMA photo/Andrea Booher)

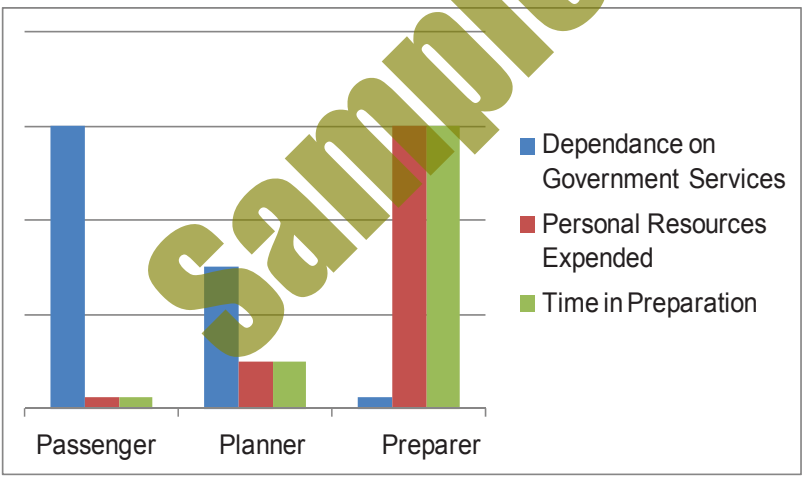
An important aspect of this will be that your choices need to be flexible to meet changes with your situation. Things like geographic location nationally and even the location of your residence locally, your lifestyle, health considerations, dependent family members (including pets), and other aspects will also come into play. This will become evident as you consider the different levels of preparation in relation to your level of dependence on others for help.

Levels of Preparation (Choices We Make Before the Event)

The Spectrum of Preparation: Passengers, Planners, and Preparers

One of the major choices you will make is what level of preparation you will adopt for your lifestyle. The spectrum of preparation can range from living a life of preparation to ignoring the issue completely and letting the government worry about taking care of your needs. For the purposes of this discussion, we can separate levels of preparation into three general categories based on the level of dependence survivors will have on others (most likely the government) for rescue, relief, and assistance after a disaster. Those who will be highly dependent we will call Passengers, those who are moderately prepared but not completely independent we will call Planners, and those who desire to be as independent as possible from requiring any assistance we will call Preparers.

The chart below offers a graphic representation of the spectrum of preparation. One thing you may notice is that there is no part of the spectrum where you are completely dependent on or completely independent of government services. Taken to both extremes, as a Passenger, if you can still think and walk, you still have the capability to make a choice, and as a Preparer, no matter how much you want to separate yourself from government services, you will still be within the sphere of control of the government and benefit from its services even if you do not draw upon them directly.



As a Planner, notice that the return of independence for the expenditure of personal resources and time is disproportionally large. A small amount of planning and preparation gets you a lot of independence and opportunity to make choices for yourself and your family. FEMA wants all individual citizens and families to be planners if they can be. FEMA knows that there will be many people who will need help, so anything you can plan and prepare to do for yourself is an advantage.

A discussion of Passengers, Planners, and Preparers will help you define the aspects of personal readiness you may wish to consider including in your plans. Understand that this decision is about how much control you want to have over your own situation and how you see your own risk (remember risk is a word used in planning). As a Passenger you may see risk in not having someone to help you. As a Preparer you may see risk in being dependent on others for help. As you read through these descriptions, think about which one seems the best suited for your needs.

II. Survival / Medical Kit Basics

I. The Survival Kit

Survival kits should NOT be a collection of tools and supplies *you think you may need,* but rather a collection of tools and supplies *you will have a purpose for* in a disaster situation. The difference is in the time you put into thinking about and acting on a real plan. Survival kits consist of the simplest items, and when you're done collecting them, you will look at your kit and think, "Is this everything I need to survive?" The key to a useful survival kit is *thinking about what you will have a purpose for* and how it will be used based on your plan. Remember that survival is a mindset, and it is important to understand that just having a kit will not save you. You will save yourself by using the tools effectively.

This may seem like semantics, but it is not. You can pay thousands of dollars for pre-made survival kits that claim to have "everything you need to survive," but a survival kit alone will not save you; thinking about your survival and preparing tools and supplies for your plan is what will help you the most. Your survival kit must meet *your* needs. Make it yourself and make it your own. This does not mean that a pre-made kit will not help if you have determined it meets your needs. But you will want to choose what you want your kit to do for you.

The FEMA website at www.ready.gov/basic-disaster-supplies-kit will give you good advice on different items for different kinds of disasters. Remember that these are suggestions to help you plan. The FEMA list may not meet all of your needs, so think through your plan and let the FEMA recommendations help you make choices.

Survival kits consist of three basic categories: what you will wear, what you will carry, and what you will consume. This idea of clothing, tools, and consumable supplies is important in terms of durability and how long you expect to have or use them. There are suggestions in this chapter that list the components of and purpose for some items to consider.

Survival kits can come in any size. The only limitations are your load capacity and your imagination. Some examples are provided here for reference. Your kit will have the items you need for your plan. The vehicle kit and the shoulder kit shown here are updated and alternate from winter kits to summer kits in the spring and fall so the kits match the season. The pocket kit is used regularly.

Large Vehicle kit

Clothing, shovel, axe, sleeping bags, shelter material, rain gear, shelf stable rations, large first aid kit, communications electronics, room for quick gather items and much more. This long term kit is ready to "bug in" or "bug out" on short notice.

Tools (Survival Kit Bag)

These are the items that will help you to move, sustain, and communicate. It is a surprisingly short list of very basic and handy items. You will want to add to this list as you need to, but keep the weight you have to carry to a minimum.

Rightsize your Tool Bag

Here are a few things to think about when making your kit and collecting your tools:

Don't pack the kitchen sink. This is a survival pack, not a vacation bag. Keep it as simple as possible. Remember your methods of movement, sustainment, and communication, and select items that meet those needs.

The tool kit is separate from the supplies. A survival kit is a set of tools, and you will want to keep it small enough to carry in a shoulder bag or small backpack. Assume you may have to move, and keep weight in mind. You can fit an amazing amount of truly handy tools into a small lightweight bag.

A Note on Tools: Many survival experts recommend having more than one of the items in your kit that are vital to your plan, just in case the one you have stops working. The rule for tools is, "Two is one and one is none." You will have to balance this idea with your weight and space limitations. Consider this option for mechanical tools like turn-handle can openers, flashlights, and portable radios.

Movement Tools

Sturdy Bag. A good bag that is easy to carry is the best way to tote your tools. It should be of significant construction; durable; made of canvas, leather, or heavy nylon; have shoulder straps; be water-resistant if not waterproof; and be able to carry all your tools with some room left over for consumable supplies.

Map. A map of the city or local area with roads, rivers, and rail lines on it is a basic requirement. Take the time to mark the location of hospitals.

Prescription Glasses. If you need glasses but prefer contacts, keep a pair of prescription glasses in your kit. You will not want to wear contacts after a disaster for several reasons. First, disasters tend to put a lot of debris into the air that can irritate your eyes. Concrete dust, smoke from fires, building insulation, and other fine airborne debris will be a problem, and you will not be able to keep your contacts from collecting this dust. Secondly, you will not want to touch your eyes with unclean fingers, and chances will be good that in a disaster situation you will not have access to extra water for eye-care needs.

Sunglasses and Clear Safety Glasses. After a disaster there will be a lot of debris floating in the air. Dust, building insulation, smoke, and other particulates will get in your eyes. Having some basic eye protection will be helpful. Protect the glasses in a case that clips to your belt or your tool bag.

Dust Masks. Just as with your eye protection, having some basic breathing protection will allow you to move through areas that may otherwise limit your movement.

Watertight Document Container. When the situation forces you to move, you will want to take your important documents with you. If you do not have a safety deposit box in a bank vault, then you will want to secure birth certificates; passports; deeds to vehicles, buildings, and land; or any other documents that are proof of identity or ownership. In most cases you can fit these documents in a one-gallon heavy resealable freezer bag. It does not have to be fancy or complicated; it just has to keep your documents dry and be easy to carry.

Sustainment Tools

Flashlight. A battery-powered or hand-crank flashlight is a must and can also be used for signaling at night. Have extra batteries if you use them.

Wrench or Pliers. To turn off utilities like gas lines.

Multi-tool. This will provide you with a small knife and some very basic tools that you will need. Take some time to learn how to use it effectively and without hurting yourself.

Manual Can Opener. There are several types, so find one that you can manage easily. The good old-fashioned mechanical can opener is easy to use and can open several cans without hurting your fingers. Keep one with your tools and another with your food. This tool is important enough to have more than one on hand. There is a survival saying: "Two is one and one is none."

First-Aid Kit. The basic necessity of being able to deal with cuts and burns, stop bleeding, and sanitize and cover a wound cannot be overemphasized. This kit should include over-the-counter medications for basic pain relief, antihistamines, or any other needs that have to be identified. First-aid basics such as adhesive bandages, sterile dressings, wrapping bandages, antibiotic ointments, eye-wash solution, and other necessities like scissors and tweezers should be included and kept up to date. The intent is to clean and cover any wound and provide basic pain relief. See the complete list of recommend first-aid items at the end of this chapter.

Plastic Bags. Plastic baggies to keep important things dry: garbage bags can be used for shelter, rain gear, water-collection, and carrying supplies, and sheet plastic can be used for shelter. They are all very light and take up very little room.

Duct Tape. There are whole books dedicated to the useful applications of duct tape. FEMA and the CDC recommend it to help seal windows and doors when you want to make an airtight seal, but that is just the beginning of the utility of this important tool.

Sanitary Kit. Keeping yourself clean is important. Moist towelettes, garbage bags, and twist ties will help keep you clean and reduce the spread of disease.

Fire-starting Tools. WARNING, if you are not used to working with fire, then don't start one. Fire is tricky to work with and can hurt you fast. If you decide to carry a lighter or fire-starting kit, then make sure you know how to control and completely extinguish the fire you start. Although fire is an important tool, it can also be a real hazard, not only from burning but also from the smoke of materials you may burn. Many wood and paper products have chemicals in them that are highly toxic to humans when burned. FEMA recommends you not start a fire at all, but if you feel you must, then learn how to do it right in order to avoid hurting yourself or others.

Communication Tools

Radio and NOAA Weather Radio. A battery-powered or hand-crank radio that can receive both regular broadcast and NOAA weather date information. Have extra batteries if you use them.

Whistle. This essential communication tool is good for getting the attention of rescuers who are within hearing distance or to signal for help to someone you cannot see due to darkness or a physical barrier.

Mirror. To signal for help when you are far from rescuers. This is good for getting the attention of rescuers who are out of hearing distance. It is helpful if you want to signal for help to someone in an aircraft or in a high-noise environment. You will want to learn how to use the mirror signal effectively.

Phone Charger. An auto adapter or solar charger is a must for keeping your phone charged. The initial loss of phone communications may last a few days, but you will want to be able to use your phone if the wireless service is restored.

As you read through this list of recommended items, identify those items that are for minor medical issues (like adhesive bandages and antibiotic ointment), and those items that are for bleeding control and injury immobilization (like compresses and slings). As with any tool kit you should know the purpose and function of everything in it.

Medical kit items

The Red Cross recommends that all first aid kits for a family of four include the following:

- 2 absorbent compress dressings (5 x 9 inches)
- 25 adhesive bandages (assorted sizes)
- 1 adhesive cloth tape (10 yards x 1 inch)
- 5 antibiotic ointment packets (approximately 1 gram)
- 5 antiseptic wipe packets
- 2 packets of aspirin (81 mg each)
- 1 blanket, mylar (space blanket)
- 1 breathing barrier (with one-way valve)
- 1 instant cold compress
- 2 pair of non-latex gloves (size: large)
- 2 hydrocortisone ointment packets (approximately 1 gram each)
- Scissors
- 1 roller bandage (3 inches wide)
- 1 roller bandage (4 inches wide)
- 5 sterile gauze pads (3 x 3 inches)
- 5 sterile gauze pads (4 x 4 inches)
- Oral thermometer (non-mercury / non-glass)
- 2 triangular bandages (can be used as slings)
- Tweezers
- First aid instruction booklet (the Red Cross has very good ones)

This is a very basic medical kit but can save a life if you need to treat a wound and stop bleeding. If you have someone in your group that has medical training encourage them collect and maintain a medical kit that meets their level of training.

OTC Medications to consider

- **Pain reducers and anti-inflammatory (NSAIDs)**
- **Antihistamines**
- **Antacid tablets**
- **Cough Drops**
- **Saline Spray / Solution**
- **Diarrhea medicine**
- **Laxatives**
- **Vitamins**

III. How to Make a Good Plan

Thinking About Plans and Making Plans

Most of the time you can recover from a bad plan and it is not a life-threatening situation. Sometimes a poor plan does nothing more than turn into a frustrating day and a good story. “There I was, up the creek without a paddle…” This is not true of disaster planning. Disaster planning requires you to get it right the first time in an unforgiving situation that is most likely dangerous. You will need a plan that you can depend upon. The government has made plans if you don’t want to make one for yourself. Or you can make a plan for yourself. Your choice.

(FEMA photo/ K.C.Wilsey)

Read the next paragraph carefully.

If you want to have choices when disaster strikes, have a plan, keep it simple but effective, resource it, practice it, make it good enough to have confidence in it, and then commit to it. Using the techniques of simple and effective planning, you can choose your goals and make a plan for what methods you will use before, during, and after an event to meet the requirements of movement, sustainment, and communication. Before a disaster, you can then collect the items you will need immediately at the onset of a disaster, the resources you will need to sustain yourself during the disaster, and the documents and information required for rebuilding your life and livelihood after a disaster. This will give you options so your plans can stay flexible. Flexibility will let you make your own choices so you have the greatest chances of success in meeting your original goals.

The paragraph you have just read is what is called “Bottom Line Up Front.” At the end of this chapter, you will see this paragraph again. When you get to that point, each of the italicized words should have a specific meaning in respect to time, intent,

Plan for Locations

While there are warnings for many types of potential disasters, many emergencies and disasters occur without any warning. Since you can't predict where you will be for disasters, it is important to have plans and supplies for the locations you and your household go to regularly. Planning ahead will ensure that you and your household will know what to do and have the supplies you need to be safe wherever you are.

Individuals and households should consider the locations they frequent; find out what plans are available for these locations, and customize their personal and household plans based on what household members would do if an emergency occurred while they were at that location.

Make a Plan by Location

Examples of locations to consider and plan for include:

- Home
- Workplace
- Vehicles - Have a plan for traveling between work and home, and other commonly visited locations, in case of an emergency.
- Regular methods of transportation such as trains, urban commuter transit
- School & daycare
- Places of worship
- Sports arenas and playing fields
- Entertainment locations such as theatres
- Shopping areas such as malls and retail centers
- Tourist and travel locations such as hotels

Additional Considerations

Developing plans for different locations will require getting key information about the organization or building managers' plans for the locations. In some cases if plans are not available, this may involve working with the building manager or other members of the organization to develop or expand plans. Information that should be considered includes:

- How you and other occupants will get local alert or warnings while you are there
- Building location alarm or alert systems
- Building occupant evacuation plans including alternate exits
- Building or organization plans for sheltering occupants in an emergency
- Key Supplies you/household members and others would need for temporary sheltering

Planning should also consider how the type of structure or the environments around the structure or location may impact alerts and warnings, shelter and evacuation, and the need for supplies. Examples of considerations for the type of structure or the environment around the location include:

- Single story vs multi-story or high rise buildings have different types of alarm systems, shelter and evacuation considerations.
- Urban and rural locations may have different local assumptions and plans for evacuation if large areas are impacted.

- Buildings like schools, sports arenas, and malls may have different plans for evacuation and shelter depending on the specific building structure and likely safe methods for evacuation or safe locations for shelter for different types of emergencies e.g. tornadoes
- Outdoor locations likes sports fields or golf courses need specific plans for rapid short-term shelter e.g. for thunderstorms and lightening or tornadoes
- Geography may be critical for some hazards, e.g. if the area is low and vulnerable to flash flooding
- Mobile homes, modular structures and other buildings not attached to permanent foundations require planning for evacuation and alternate shelter locations
- Neighborhoods, Condominiums and Apartments
- Talk to your neighbors about how you can work together during an emergency.
- Find out if anyone has specialized equipment like a power generator, or expertise such as medical knowledge, that might help in a crisis.
- Decide who will check on elderly or disabled neighbors.
- Make back-up plans for children in case you can't get home in an emergency.
- Sharing plans and communicating in advance is a good strategy.

In a High-Rise Building

- Note where the closest emergency exit is.
- Be sure you know another way out in case your first choice is blocked.
- Take cover against a desk or table if things are falling.
- Move away from file cabinets, bookshelves or other things that might fall.
- Face away from windows and glass.
- Move away from exterior walls.
- Determine if you should stay put, "shelter-in-place" or get away.
- Listen for and follow instructions.
- Take your emergency supply kit, unless there is reason to believe it has been contaminated.
- Do not use elevators.
- Stay to the right while going down stairwells to allow emergency workers to come up.

In a Moving Vehicle

- If there is an explosion or other factor that makes it difficult to control the vehicle, pull over, stop the car and set the parking brake.
- If the emergency could impact the physical stability of the roadway, avoid overpasses, bridges, power lines, signs and other hazards.
- If a power line falls on your car you are at risk of electrical shock, stay inside until a trained person removes the wire.
- Listen to the radio for information and instructions as they become available.
- Have a plan for traveling between work and home, and other commonly visited locations, in case of an emergency.

For additional planning factors, refer to FEMA's Commuter Emergency Plan (PDF) worksheet at http://www.fema.gov/media-library/assets/documents/90370

Know Thyself - Your Conclusions & Choices

Once you have completed your three choices worksheets, place the results of your assessments and choices into the simple template provided here. Then look at the patterns of your thoughts and choices and see if they make sense to you given what you have learned while reading this book. Make adjustments accordingly if you see an area that does not seem quite right to you. Take the time to find the reason(s) your gut told you to reexamine your initial assessment.

Disaster-situation avoidance: Remember this is not a list of disasters, but of the aspects of disaster.

The disaster situation I most want to avoid is: _____
_____.

Temperament:
I am primarily a(n) _____ temperament
and secondarily a(n) _____ temperament.

My level of comfort with dependence on the resources and assistance of others is _____.

The method of my personal preparation will be:
_____.

Conclusion

You have completed your initial thought process for the planning of your survival in the event of a major disaster. You have made important choices that will put you on the path to having a real plan that will help you meet your goals using methods before, during, and after a disaster to meet the requirements of movement, sustainment, and communication. You have examined yourself and your temperament in order to give yourself the best chance to make plans that will work for you and to control your emotions in order to survive in dangerous and stressful conditions. You have a good idea of your level of comfort in respect to your level of dependence on emergency-response and assistance plans.

You are armed with new skills in how to make plans and how to develop appropriate expectations of the level of assistance you may find in a disaster. You know how to see yourself and how to see what is going on around you in respect to how people react to their fear during a disaster. You now have a clear idea of what you want to do in order to survive. You are now ready to control the one and only thing you can control in a disaster: yourself.

Chap 3

I. Community Preparedness

Individuals can make a difference in their own community but not everyone has bought into preparedness. Research on personal preparedness indicates that individuals who believe they are prepared for disasters often are not as prepared as they think. In addition, some admit they do not plan at all.

Our nation's emergency managers, firefighters, law enforcement officers, EMT/paramedics, and other emergency responders do an incredible job of keeping us safe, but they cannot do it alone. We must all embrace our personal responsibility to be prepared -- in doing so, we contribute to the safety and security of our communities as well.

There are organizations in your community that host community-planning meetings, provide preparedness information and volunteer opportunities to community members and when in need, are available to respond to a disaster. Organizations like Citizen Corps provide this support in communities nationwide.

Citizen Corps *(see p. 3-13 for further discussion)*

The mission of Citizen Corps is to harness the power of every individual through education, training, and volunteer service to make communities safer, stronger, and better prepared to respond to the threats of terrorism, crime, public health issues, and disasters of all kinds through:

- Preparing the public for local risks with targeted outreach
- Engaging voluntary organizations to help augment resources for public safety, preparedness and response capabilities
- Integrating the whole community and integrates nontraditional resources to ensure disaster preparedness

The Citizen Corps program includes a national network of over 1,200 state, local, and tribal Citizen Corps Councils bring together local government, business, and community leaders who work to prepare their communities for disaster and to make them more resilient.

Citizen Corps asks you to embrace the personal responsibility to be prepared; to get training in first aid and emergency skills; and to volunteer to support local emergency responders, disaster relief, and community safety.

https://www.ready.gov/citizen-corps

Getting Started

Help prepare your neighborhood by starting an emergency preparedness project that is designed to identify local hazards and work together to solve problems. While no two projects will be the same, successful projects will share a few common practices. We encourage you to incorporate the following elements:

- Identify local resources
- Create a team with your friends and neighbors to share the effort
- Set outcome-based goals and track your progress to those goals
- Serve your community
- Record, share and celebrate your successes together

Community Emergency Response Team (CERT)

The Community Emergency Response Team (CERT) program educates volunteers about disaster preparedness for the hazards that may impact their area and trains them in basic disaster response skills, such as fire safety, light search and rescue, team organization, and disaster medical operations. CERT offers a consistent, nationwide approach to volunteer training and organization that professional responders can rely on during disaster situations, which allows them to focus on more complex tasks. Through CERT, the capabilities to prepare for, respond to and recover from disasters is built and enhanced.

At the same time, the CERT program was designed as a grassroots initiative and specifically structured so that the local and state program managers have the flexibility to form their programs in the way that best suits their communities. CERT volunteers are trained to respond safely, responsibly, and effectively to emergency situations, but they can also support their communities during non-emergency events as well. There are over 2,700 local CERT programs nationwide, with more than 600,000 individuals trained since CERT became a national program.

FEMA's Community Emergency Response Team Program trains volunteers to prepare for the types of disasters that their community may face. Through hands-on practice and realistic exercises, CERT members:

- Learn how to safely respond to manmade and natural hazards
- Help organize basic disaster response
- Promote preparedness by hosting and participating in community events

Course Overview

The CERT Basic Course is delivered in the community by a team of first responders, and other qualified volunteers. The organization and timing of training and meeting varies from program to program. It is often broken up into two to four hour blocks over a series of evenings or weekends.

- **Disaster Preparedness**: Addresses hazards specific to the community. Materials cover actions that participants and their families take before, during and after a disaster as well as an overview of CERT and local laws governing volunteers.
- **Fire Suppression**: Covers fire chemistry, hazardous materials, fire hazards and fire suppression strategies. However, the thrust of this session is the safe use of fire extinguishers, controlling utilities and extinguishing a small fire.
- **Medical Operations Part I**: Participants practice diagnosing and treating airway obstruction, bleeding and shock by using simple triage and rapid treatment techniques.
- **Medical Operations Part II**: Covers evaluating patients by doing a head to toe assessment, establishing a medical treatment area and performing basic first aid.
- **Light Search and Rescue Operations**: Participants learn about search and rescue planning, size-up, search techniques, rescue techniques and rescuer safety.
- **Psychology and Team Organization**: Covers signs and symptoms that might be experienced by the disaster victim and workers, and addresses CERT organization and management.
- **Course Review and Disaster Simulation**: Participants review and practice the skills that they have learned during the previous six sessions in a disaster activity.

https://www.ready.gov/community-emergency-response-team

III. Community Resiliency

Section #1 Community and Resiliency

This section is an introduction to the ideas, definitions, and methods of communicating and building Community Resiliency. The intent is to provide community leaders with a base line set of planning tools (definitions, objectives, and methods) that they can use as a frame work to build a community resiliency plan, not just for, but also in coordination with the populations they serve.

The hard part of a community resiliency program is that civil leadership can only communicate and facilitate the plan. The population must recognize the importance of resiliency and make individual preparations in order for the community to actually be resilient. Success in communicating community resiliency is found in well-articulated goals for public awareness, preparation, and response.

Components of Resiliency

Population:
Individuals, families, groups and local businesses within the community.

- Individuals, Families, Groups
- Neighborhoods, Congregations, Culturally Separated Populations

Services:
Capabilities provided primarily by people with facilities and/or equipment. Can be government or business enterprise.

- Local Businesses & Charities
- Police, Fire Fighters, Emergency Med Response, Emergency Communications

Infrastructure:
Capabilities provided primarily by mechanical systems or Facilities.

- Business, Banks, Mail, Trash, Schools, Courts, Jails, Hospitals, Transportation
- Clean Water, Consistent Power, Roads, Rails, Bridges, Public Buildings, Public & Commercial Communication

Note the overlap of some aspects from one category to another as with Communication (Services) and Radio Stations (Infrastructure). The relationships between people, services, & structures are closely related.

Population: Similarities of families, businesses, and groups

The similarities of families, businesses, and groups within a community can be found in the recognition that the basic tenets of communication, planning, and preparation are the same for all three. The messages within communication, the details of the plans, and the materials used in preparation will be different for each aspect; mostly in respect to the quantities of materials used to facilitate plans. Those differences aside, the objectives of the plans will be surprisingly similar; protect, preserve, and recover. This similarity will cause the plans and preparations at each respective level to naturally interact with the other levels. Where resiliency awareness, planning, and preparation are weak, then the different levels will compete for the same resources and the interactions will result in conflict. When awareness, planning, and preparation are strong, there will be more awareness, solid working plans, and greater levels of available resources. Interactions within prepared communities will result in less competition and more cooperation.

Again, in each case it is the human aspect of the situation that makes the difference. Depending upon the level of awareness and preparation, the population will be the greatest asset or the greatest liability in a disaster scenario. Consider this, many community plans assume that the population will be a liability rather than a resource, but if community leaders work with the population and social support structure to build awareness, appropriate expectations and individual and family readiness, then people can provide the dynamics of adaptability and resiliency.

Regardless of the plan or preparation, it is the attitude and capability of the people that provide the benefits of stability and resiliency. In recognizing and including the supremacy of the human aspect in the considerations for success in community resiliency, community planners can tap into the energies of the community and

Educational Resources

A community with a love of learning is well on its way to true resiliency. The following examples are just a few community opportunities for learning. An examination of your community will reveal many more. Remember to include civic clubs and congregations.

The Red Cross - Medical Training: http://www.redcross.org/

The Red Cross is already a national resource with certification classes on first aid, Cardio Pulmonary Resuscitation (CPR), blood borne pathogen protection, and Automated External Defibrillator (AED). Classes are available online, in classroom settings and in workplace settings.

American Radio Relay League - Emergency Communication: http://www.arrl.org/

ARRL is the national association for Amateur Radio in the US. Founded in 1914 by Hiram Percy Maxim as The American Radio Relay League, ARRL is a noncommercial organization of radio amateurs. ARRL numbers within its ranks the vast majority of active radio amateurs in the nation and has a proud history of achievement as the standard-bearer in amateur affairs. ARRL's underpinnings as Amateur Radio's witness, partner and forum are defined by five pillars: Public Service, Advocacy, Education, Technology, and Membership. Local "ham" radio clubs can provide certified instructors and expert advice for building a community emergency communications network. Many radio clubs often have members who are active in federal emergency communications programs.

Local trade schools and Union training Centers – Electrical, Plumbing, Mechanical:

Local trade's education centers can be contacted for technical learning opportunities. These points of contact have an amazing array of very applicable knowledge and are often looking for methods to communicate with the public for safety reasons as well as for recruiting new membership to the trades. Community leaders can partner with the skilled trades in safety education programs.

Community life skills centers: Cooking, sewing, garment making, gardening, etc.

The possibilities here are endless. There are already community centers in most municipalities that are practiced at providing a wide variety of life skills. These centers are especially adept at communication through children's programs and community outreach.

County Extension Agents - Master Gardening courses and certification:

County extension offices have expertise and resources to help train the community in the skills of growing and gardening. Victory and urban gardens are a great way to get these skills into the community. This is a particularly effective way to get fresh food and food knowledge into areas where current food distribution is limited or where disruption of food transport may have greater effects.

Municipal Programs - Coordination of existing civic education programs:

There are already many safety and awareness programs within city agencies and departments. Simple things like identifying where water, gas and electrical shut-offs are and marking them within the home can be a life saver in the aftermath of a disaster.

Federal Emergency Management Administration, FEMA – Food/Water storage:

Because food and water availability is such a vital part of any disaster plan Communities can use existing government sites, educational materials, and teaching resources to inform the public in these important skills. In some areas FEMA has resources ready for public use and distribution at little to no cost to the community. Finding and taking advantage of these existing programs to make federal resources available to the community can have a significant impact on Community Readiness and resiliency. As mentioned in other parts of this book, there are many great resources available from FEMA.

State Emergency Management resources:

Each State and Territory in the U.S. has an emergency management office. Communities, churches, and civic groups can contact these offices for information and resources on disaster preparation.

The Protection Challenge

Ref: National Strategy for Physical Protection of Critical Infrastructure and Key Assets (Feb '03), p. viii and p. 9.

The Importance of Critical Infrastructures

America's critical infrastructure sectors provide the foundation for our national security, governance, economic vitality, and way of life. Furthermore, their continued reliability, robustness, and resiliency create a sense of confidence and form an important part of our national identity and purpose. Critical infrastructures frame our daily lives and enable us to enjoy one of the highest overall standards of living in the world.

The facilities, systems, and functions that comprise our critical infrastructures are highly sophisticated and complex. They include human assets and physical and cyber systems that work together in processes that are highly interdependent. They also consist of key nodes that, in turn, are essential to the operation of the critical infrastructures in which they function.

The Importance of Key Assets

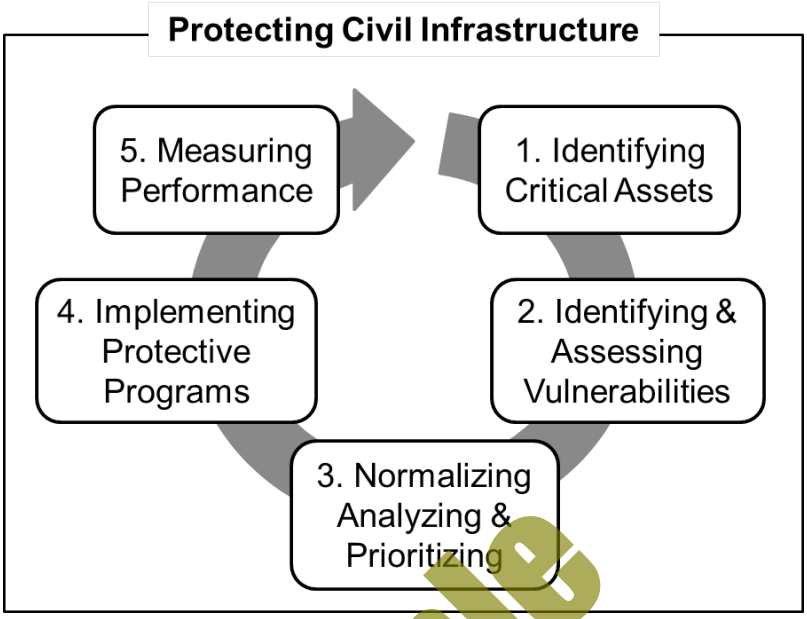
Key assets and high profile events are individual targets whose attack—in the worst-case scenarios—could result in not only large-scale human casualties and property destruction, but also profound damage to our national prestige, morale, and confidence.

Individually, key assets like nuclear power plants and dams may not be vital to the continuity of critical services at the national level. However, a successful strike against such targets may result in a significant loss of life and property in addition to long-term, adverse public health and safety consequences. Other key assets are symbolically equated with traditional American values and institutions or U.S. political and economic power. Our national icons, monuments, and historical attractions preserve history, honor achievements, and represent the natural grandeur of our country. They celebrate our American ideals and way of life and present attractive targets for terrorists, particularly when coupled with high profile events and celebratory activities that bring together significant numbers of people.

The Protection Challenge

Agriculture and Food	1,912,000 farms; 87,000 food-processing plants
Water	1,800 federal reservoirs; 1,600 municipal waste water facilities
Public Health	5,800 registered hospitals
Emergency Services	87,000 U.S. localities
Defense Industrial Base	250,000 firms in 215 distinct industries
Telecommunications	2 billion miles of cable
Energy Electricity	2,800 power plants
Oil and Natural Gas	300,000 producing sites
Transportation Aviation	5,000 public airports
Passenger Rail and Railroads	120,000 miles of major railroads
Highways, Trucking, and Busing	590,000 highway bridges
Pipelines	2 million miles of pipelines
Maritime	300 inland/costal ports
Mass Transit	500 major urban public transit operators
Banking and Finance	26,600 FDIC insured institutions
Chemical Industry and Hazardous Materials	66,000 chemical plants
Postal and Shipping	137 million delivery sites
Key Assets National Monuments and Icons	5,800 historic buildings
Nuclear Power Plants	104 commercial nuclear power plants
Dams	80,000 dams
Government Facilities	3,000 government owned/operated facilities
Commercial Assets	460 skyscrapers

**These are approximate figures.*



1. Identifying critical assets

This step generates a single list of infrastructure and describes the use of the assets. Questions to be answered are:

1. What do we have?
2. Is it important?
3. Why is it important?

The first step will be to identify the critical assets located within the community. This will include all services that utilize structures and systems. Examples of this are water collection, treatment, storage, and distribution, roads, bridges, buildings, municipal and commercial power distribution, and all other forms of stationary city property. This also includes any infrastructure that is owned by service contractors; power supply being the primary consideration here. Where equipment is used to maintain infrastructure (like trucks for road salting and clearing) it should be considered as part of the system. Once this information is collected it will be used as the base for further discussion.

2. Identifying and assessing vulnerabilities

This step adds vulnerability information the infrastructure identified in step #1. Questions to be answered are:

1. What infrastructure is vulnerable? (includes cascading effects)
2. What is it vulnerable to?
3. What specific deficiency makes it vulnerable?

Vulnerability assessments should be conducted on those items identified in step 1. Potential areas of weakness need to be identified as well as the nature of any deficiency and what protective measures are required to mitigate those vulnerabilities. Interdependencies within and between infrastructures need to be identified to minimize cascading effects.

Chap 4

I. Organizational Preparedness

Planning and preparing can make a big difference in being safe and keeping an organization operational during and after a disaster. The ability to maintain or quickly reestablish operations or organization processes requires a focus on preparedness, advance planning, and relationships with external partners and community leaders.

Organizational Preparedness

Prepare Your People

Prepare Your Organization

Maintain Momentum Year-Round

A. Prepare Your People

Hold a Preparedness Discussion

One of the most effective ways to share information and motivate people to take steps for personal preparedness is to talk to your people. Add a preparedness discussion to the agenda of your next staff or organizational meeting or arrange a brown bag lunch session. Many individuals within an organization—including managers, employees, teachers, and volunteers—can lead a preparedness discussion.

Preparedness Discussion Goals

As you prepare for your talk, keep the following goals in mind to ensure you facilitate a productive and informative discussion.

- Share the potential impact of disasters
- Know the National Weather Service (NWS) terms that are used to describe changing weather conditions—advisories, watches, and warnings.
- Emphasize the importance of being prepared to evacuate by remembering the 5 Ps: People, Prescriptions, Papers, Personal Needs, and Priceless Items.
- Outline your organization's emergency communications plans and policies.
- Sign up for community notifications.

Test Your Emergency Communications Plans

Consider testing your employee notification plan with employees and volunteers to ensure you will be able to communicate with them effectively in case of an emergency—both during and outside of business hours. This could be as simple as sending an email, a text alert, or testing a public address system to ensure leadership can provide critical emergency guidance when needed. Be sure to identify these communications by starting with "THIS IS A TEST" to avoid any confusion.

B. Prepare Your Organization

Hold a Tabletop Exercise

A tabletop exercise is a facilitated discussion about what your organization would do in response to a disaster. The exercise leads participants through a simulated disaster scenario and prompts them to examine their plans, policies, and procedures without disrupting the work environment. It allows for a facilitated discussion of roles, procedures, and responsibilities in the context of a simulated emergency scenario.

The goals for the exercise are as follows:

- To assess your organization's ability to respond using your current plans, policies, capabilities, and resources; and
- To help identify improvements that could make the difference in keeping your people safe and doors open after a disaster.

Many individuals within your organization can lead this effort: a senior leader, an employee, a facility manager, a human resources manager, or a program manager.

Exercise Overview

To simulate an actual event, the Prepare Your Organization tabletop exercise begins with an initial scenario description and proceeds with three scenario updates. Each phase of the scenario includes discussion questions to allow participants to focus on problem solving as a leadership team in a low-stress, consequence-free environment. This exercise is not meant to assess individual performance, but rather, it is an opportunity to identify and resolve problems, improve workplace safety, and bolster your organization's continuity of operations.

- **Facilities**: Structural maintenance considerations; flood mitigation; storm shutters; back-up power supplies; supplies for staying on-site; accessibility considerations; and emergency repairs.
- **Human Resources Policies**: Employee notification and alerts; early release/telework policies; flexible work schedules; payroll and insurance policies; employee insurance policies; employee/family reunification procedures; employees trained in first-aid with access to medical supplies; and capacity to ensure accessibility for individuals with disabilities or access and functional needs.
- **Continuity of Operations Plans**: Plans to operate at an alternate location; access to important data; roles and responsibilities; insurance policies; supplier and customer relationship management; and plans and processes to resume operations.
- **Emergency Operations Plans**: Ability to provide critical information and updates during the emergency through multiple notification systems; guidance on how to protect critical assets; plans to provide first aid; and protocols for communicating with local first responders and critical infrastructure providers.

Time Commitment

The tabletop exercise should last approximately 2–3 hours, depending on the amount of discussion and needed breaks. This includes time for introductions, an overview of the process, the exercise, and a debriefing. While this may seem like a lot of time, especially for busy managers, the investment will pay dividends both in a real emergency or disaster and in improving day-to-day operations.

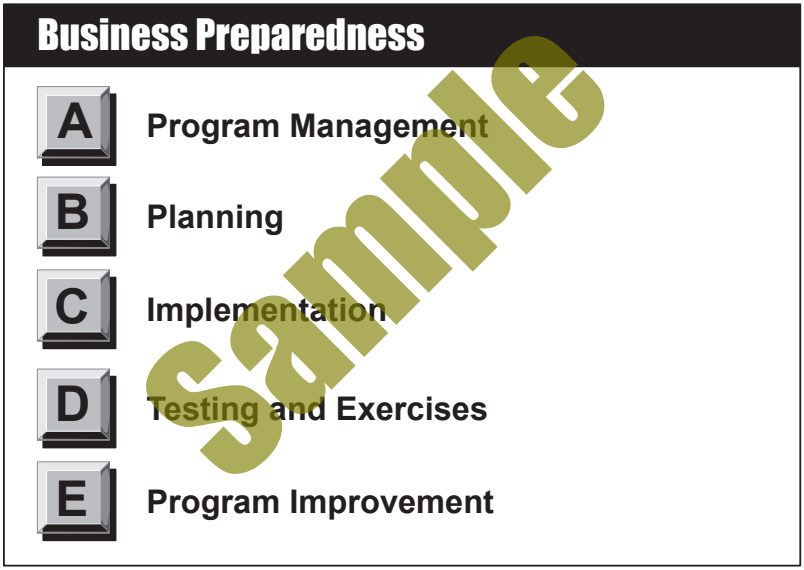
Once your organization's leadership agrees to hold a tabletop exercise, the following steps will lead you through the planning process and help your organization get the most value from the exercise.

Chap 4

II. Business Preparedness

Businesses can do much to prepare for the impact of the many hazards they face in today's world including natural hazards like floods, hurricanes, tornadoes, earthquakes and widespread serious illness such as the H1N1 flu virus pandemic. Human-caused hazards include accidents, acts of violence by people and acts of terrorism.

Ready Business will assist businesses in developing a preparedness program by providing tools to create a plan that addresses the impact of many hazards. This website and its tools utilize an "all hazards approach" and follows the program elements within National Fire Protection Association 1600, Standard on Disaster/Emergency Management and Business Continuity Programs. NFPA 1600 is an American National Standard and has been adopted by the U.S. Department of Homeland Security.



The five steps in developing a preparedness program are Program Management, Planning, Implementation, Testing and Exercises, and Program Improvement. Find out more about the five steps below.

A. Program Management

The preparedness program is built on a foundation of management leadership, commitment and financial support. Without management commitment and financial support, it will be difficult to build the program, maintain resources and keep the program up-to-date.

- Organize, develop and administer your preparedness program
- Identify regulations that establish minimum requirements for your program

Find more information on Program Management at https://www.ready.gov/program-management

Emergency Response Plan

The actions taken in the initial minutes of an emergency are critical. A prompt warning to employees to evacuate, shelter or lockdown can save lives. A call for help to public emergency services that provides full and accurate information will help the dispatcher send the right responders and equipment. An employee trained to administer first aid or perform CPR can be lifesaving. Action by employees with knowledge of building and process systems can help control a leak and minimize damage to the facility and the environment.

The first step when developing an emergency response plan is to conduct a risk assessment to identify potential emergency scenarios. An understanding of what can happen will enable you to determine resource requirements and to develop plans and procedures to prepare your business. The emergency plan should be consistent with your performance objectives.

At the very least, every facility should develop and implement an emergency plan for protecting employees, visitors, contractors and anyone else in the facility. This part of the emergency plan is called "protective actions for life safety" and includes building evacuation ("fire drills"), sheltering from severe weather such as tornadoes, "shelter-in-place" from an exterior airborne hazard such as a chemical release and lockdown. Lockdown is protective action when faced with an act of violence.

When an emergency occurs, the first priority is always life safety. The second priority is the stabilization of the incident. There are many actions that can be taken to stabilize an incident and minimize potential damage. First aid and CPR by trained employees can save lives. Use of fire extinguishers by trained employees can extinguish a small fire. Containment of a small chemical spill and supervision of building utilities and systems can minimize damage to a building and help prevent environmental damage.

Some severe weather events can be forecast hours before they arrive, providing valuable time to protect a facility. A plan should be established and resources should be on hand, or quickly, available to prepare a facility. The plan should also include a process for damage assessment, salvage, protection of undamaged property and cleanup following an incident. These actions to minimize further damage and business disruption are examples of property conservation.

Guidance for the development of an emergency response plan can be found in this step. Build your emergency response plan using this worksheet.

Protective Actions for Life Safety

When there is a hazard within a building such as a fire or chemical spill, occupants within the building should be evacuated or relocated to safety. Other incidents such as a bomb threat or receipt of a suspicious package may also require evacuation. If a tornado warning is broadcast, everyone should be moved to the strongest part of the building and away from exterior glass. If a transportation accident on a nearby highway results in the release of a chemical cloud, the fire department may warn to "shelter-in-place." To protect employees from an act of violence, "lockdown" should be broadcast and everyone should hide or barricade themselves from the perpetrator.

Protective actions for life safety include:

- Evacuation
- Sheltering
- Shelter-In-Place
- Lockdown

Your emergency plan should include these protective actions. If you are a tenant in multi-tenanted building, coordinate planning with the building manager.

Developing the Emergency Plan

Developing an emergency plan begins with an understanding of what can happen.

Review your risk assessment. Consider the performance objectives that you established for your program and decide how much you want to invest in planning beyond what is required by regulations.

Assess what resources are available for incident stabilization. Consider internal resources and external resources including public emergency services and contractors. Public emergency services include fire departments that may also provide rescue, hazardous materials and emergency medical services. If not provided by your local fire department, these services may be provided by another department, agency or even a private contractor. Reach out to local law enforcement to coordinate planning for security related threats.

Document available resources. Determine whether external resources have the information they would need to handle an emergency. If not, determine what information is required and be sure to document that information in your plan.

Prepare emergency procedures for foreseeable hazards and threats. Review the list of hazards presented at the bottom of the page. Develop hazard and threat specific procedures using guidance from the resource links at the bottom of this page.

10 Steps for Developing an Emergency Response Plan

1. Review performance objectives for the program.
2. Review hazard or threat scenarios identified during the risk assessment.
3. Assess the availability and capabilities of resources for incident stabilization including people, systems and equipment available within your business and from external sources.
4. Talk with public emergency services (e.g., fire, police and emergency medical services) to determine their response time to your facility, knowledge of your facility and its hazards and their capabilities to stabilize an emergency at your facility.
5. Determine if there are any regulations pertaining to emergency planning at your facility; address applicable regulations in the plan.
6. Develop protective actions for life safety (evacuation, shelter, shelter-in-place, lockdown).
7. Develop hazard and threat-specific emergency procedures using guidance from the resource links on this page. Write your emergency response plan using this template
8. Coordinate emergency planning with public emergency services to stabilize incidents involving the hazards at your facility.
9. Train personnel so they can fulfill their roles and responsibilities.
10. Facilitate exercises to practice your plan.

Warning, Notifications, and Communications

Plans should define the most appropriate protective action for each hazard to ensure the safety of employees and others within the building. Determine how you will warn building occupants to take protective action. Develop protocols and procedures to alert first responders including public emergency services, trained employees and management. Identify how you will communicate with management and employees during and following an emergency.

Chap 4

III. Military Family Preparedness

Each installation has a Readiness and Emergency Management activity that provides emergency management education materials and briefings to the military and family members. They coordinate and integrate all activities to build, sustain and improve the installation's ability to mitigate against, prepare for, respond to and recover from threatened or actual natural disasters, acts of terrorism or other man-made disasters.

- Know what disasters could affect your area, which could call for an evacuation and when to shelter in place.
- Keep a NOAA Weather Radio tuned to your local emergency station and monitor TV, radio, and follow mobile alert and mobile warnings about severe weather
- Download the FEMA app/receive weather alerts from the National Weather Service

Make a Plan

The installation plan for emergency management is the Comprehensive Emergency Management Plan (CEMP) 10-2.

- Every time you relocate, learn the types of emergencies likely to affect the area and update your emergency kit and plan with new materials if necessary.
- If you live off base, threat levels or other circumstances may keep you from getting back on base for day-to-day activities following an emergency. Know alternative places to shop or obtain things you normally get on base.
- During or after an emergency, you need to report to your command. Learn and follow the established procedures.

If You're Stationed Abroad

- The emergency number is probably not 9-1-1 and may differ on and off the installation. You and your family should know the operable numbers.
- Your emergency kit should include some additional items, such as passports, birth abroad certificates for children born overseas, cash in the local currency, a card with local translations of basic terms and an electrical current converter.
- For an emergency that occurs "outside the fence," response (evacuations, shelter instructions, etc.) will be led by the local government. Cooperate with the host-nation responders and follow their instructions.

Army

Ready Army is an Army-wide campaign developed by the Headquarters Department of the Army and the Army Emergency Management Program to prepare the Army community, encourages soldiers, their families and Army civilians to build a kit, make a plan and be informed.

Prepare to Report

Following certain catastrophic events, the Secretary of the Defense may direct all DOD-affiliated people in the affected area to check in with their command for

"Ready Army" Command & Staff Guidance

Editor's note: The following guidance from the Ready Army site can easity be tailored and modified by units and the other Services as a model for preparation activities and disaster preparedness readiness.

An effective Ready Army program cannot be executed exclusively by the installation Emergency Manager. It takes team work from up and down the chain of command to be effective and get the word out to everyone. The following guidance is some suggested roles and responsibilities for the various staffs to support the Ready Army program. This is not all inclusive and staff should refer to regulations, policies, SOPs, and local command guidance for executing the Ready Army program. Contact your Family Readiness Group or Installation Emergency Manager

The following is an extract from DA PAM 525-27: "Individual, family, and community preparedness is the cornerstone of any successful EM program. The preparedness at the community level contributes directly to the success of the evacuation and mass care efforts by the EM program. Community preparedness establishes a buffer between the onset of the emergency and the reestablishment of essential and routine services by installation and civilian and commercial providers. It is the goal of community preparedness efforts that individuals and families should be prepared to survive for a minimum of 72 hours before the restoration of essential services, such as the distribution of water, food, and emergency supplies. Within the Army, all installations shall establish and execute the Ready Army Campaign (http://www.ready.army.mil)."

ACOM, ASCC, and DRU Emergency Management Program Coordinator

Every ACOM, ASCC, and DRU commands have an assigned EM Program Coordinator.

Installation Emergency Manager (EM)

The installation EM is overall responsible for the Ready Army program and is executed with support from the EM Working Group with includes staff members from not just the garrison staff but from representatives from all tenant activities on the installation.

"Ready Army" Roles and Responsibilities

The Ready Army Campaign relies on everyone to reach out to many different audiences and motivate them to become prepared for disasters and emergencies. We encourage you to involve community and business leaders in the planning process. This information should provide you with ideas of the events, messages, and communication techniques that can help you reach and engage your community.

The following guidance is some suggested roles and responsibilities for the various staffs to support the Ready Army program. This is not all inclusive and staffs should refer to regulations, policies, SOPs, and local command guidance for executing the Ready Army program:

- Ensure Ready Army program responsibilities are assigned to an appropriate garrison staff sections.
- Include Ready Army program activities into the EM Working Group.
- Collaborate with all tenant command EM program coordinators and local off installation EM personnel on Ready Army activities.
- Incorporate Ready Army community awareness into daily staff activities of the garrison staff.

IV. First Responders (Fire & Law Enforcement)

Organizational preparedness refers to the preparation of first responders and their agencies to react to a catastrophic disaster. These types of disasters affect the entire community, disrupting the day-to-day activities of agencies of all types, including those of first responders.

First responders have a responsibility to provide essential services to respond to the impacts of the disaster on the community at large, prevent further damage where possible, and serve as a steady presence in the face of such events. In order to be able to provide these essential services, responders must take many of the same preparedness steps as other members of the community. Without taking the appropriate steps to prepare themselves and their families in advance of a disaster, responders will be hindered in their ability to perform their jobs when a disaster strikes, and will instead be focused on personal and family safety. Appropriate advance planning lessens the burden on responders during a response, enabling them to devote more of their mental resources to the task of securing the community.

Ready Responder Toolkit (FEMA)

The Ready Responder Toolkit is designed to provide emergency response agencies with a series of planning tools to help prepare their personnel and their families for emergencies. These tools are flexible and customizable to be used by planners to meet the needs of their agency or department.

This toolkit provides resources on how to develop an organizational preparedness plan; examples of how to promote individual, family, and organizational preparedness; and engage other agencies and departments in these efforts. There are also sample newsletter articles, media pitch templates, and other press materials that can be used to develop and distribute internal and external preparedness messaging.

Ready Responder Toolkit (PDF): https://www.ready.gov/sites/default/files/documents/files/RRToolkit.pdf

The Emergency Management Institute (EMI) offers self-paced courses free-of-charge. For a complete list of courses visit: https://training.fema.gov/is/

The National Fire Administration (NFA) offers online courses. To view a list of NFA Certificate eligible courses visit: https://apps.usfa.fema.gov/nfacourses/

Homeland Security Presidential Directive 8 (HSPD-8) defines first responders as: "… Those individuals who in the early stages of an incident are responsible for the protection and preservation of life, property, evidence, and the environment, including… emergency management, public health, clinical care, public works, and other skilled support personnel (such as equipment operators) that provide immediate support services during prevention, response, and recovery operations."[2]

It is important to remember that first responders are not just considered in the traditional sense of the term, such as fire, law enforcement, emergency medical services (EMS), emergency management, public health, and public works. They also include the wider incorporation of functions and departments that play integral roles in operations that often have not previously been a part of the process.

Chap 5

Natural Disasters

This chapter provides a description of different types of natural disasters. The conversation starts out very general and gets more specific as each description progresses. This is done on purpose because your preparations will be based on the generalities of the type of event. Your actual survive activities during a disaster will be based on the specific situation with that particular event. This combination of general preparation and specific action is not a contradiction but rather an important method of thinking. When you understand the generalities of a disaster type it helps you anticipate so you can take specific actions to increase your chances of survival. You will not be able to do everything to protect yourself, your loved ones and your property, so you will need to prioritize and be able to choose the right things to survive.

(Shutterstock)

Natural Disasters

(Natural Disasters)
A. Hurricanes

General Description

Hurricanes are huge storms that can be hundreds of miles across. They build up at sea and transfer the energy from the warm water of the ocean into high winds and raging seas. When these storms make landfall, or even pass nearby the coast, they bring high winds, torrential rains, and surging sea water.

Hurricane (29)							
Effects	**Least**						**Worst**
Areas of Known Occurrence	Known	1	**2**	3	4	5	Unknown
Scales and Measurement	Before	1	2	**3**	4	5	After
Quick or Slow Onset	Days	1	2	3	4	5	Minutes
Area of Effect	Local	1	2	3	4	**5**	States
Duration of Effects	Hours	1	2	3	4	5	Months
Destruction of Infrastructure	Minor	1	2	3	4	**5**	Total
Disruption of Services	Minor	1	2	3	4	**5**	Total
Aftermath	Minor	1	2	3	4	**5**	Disaster

Major Threat

Hurricanes are a triple threat: they kill with wind (the debris it carries), water from the storm surge or rain flooding, and aftermath. There is very little you can do to change your situation once you get caught in a hurricane. The winds will do the most damage and set conditions for aftermath. Wind damage is not directly related to wind speed, and all hurricane-force winds (74 MPH or more) can carry deadly projectiles. The storm surge is a wall of sea water 50 to 100 miles long resulting from the wind pushing the ocean in front of the storm. Storm surge presents the greatest immediate threat to your life, but a typical hurricane of any category will also drop between 6 and 12 inches of rain, causing significant flooding. This flooding is the primary cause of fatalities after a hurricane. If you do survive the storm, then you will face the aftermath, which may be even worse. In addition, be aware that as the hurricane dissipates over land, it has the potential to spawn tornadoes.

Survival Strategy

Use the predictability and slow-onset time to your advantage: be long gone before the hurricane arrives. If you like living by the ocean, then you should be aware of the weather, be prepared to board up your house, and be ready to evacuate. Give yourself 48 hours to move and you can avoid the storm completely. You risk some property loss to wind, water, or looting, but risk to personal safety can be effectively avoided.

Government Information Websites:

National Oceanic and Atmospheric Administration (NOAA) — http://www.noaa.gov/

National Weather Service (NWS) — http://www.weather.gov/

Federal Emergency Management Administration (FEMA) — http://www.ready.gov/

Centers for Disease Control and Prevention (CDC) — http://www.cdc.gov/

Hurricane Actions

Basic Preparedness Tips

- Know where to go. If you are ordered to evacuate, know the local hurricane evacuation route(s) to take and have a plan for where you can stay. Contact your local emergency management agency for more information.
- Put together a go-bag: disaster supply kit, including a flashlight, batteries, cash, first aid supplies, medications, and copies of your critical information if you need to evacuate
- If you are not in an area that is advised to evacuate and you decide to stay in your home, plan for adequate supplies in case you lose power and water for several days and you are not able to leave due to flooding or blocked roads.
- Make a family emergency communication plan.
- Many communities have text or email alerting systems for emergency notifications. To find out what alerts are available in your area, search the Internet with your town, city, or county name and the word “alerts.”

Preparing Your Home

- Hurricane winds can cause trees and branches to fall, so before hurricane season trim or remove damaged trees and limbs to keep you and your property safe.
- Secure loose rain gutters and downspouts and clear any clogged areas or debris to prevent water damage to your property.
- Reduce property damage by retrofitting to secure and reinforce the roof, windows and doors, including the garage doors.
- Purchase a portable generator or install a generator for use during power outages.
- Consider building a FEMA safe room or ICC 500 storm shelter designed for protection from high-winds and in locations above flooding levels.

Hurricane Watch (conditions possible within 48 hrs)

- Review your evacuation route(s) & listen to local officials.
- Review the items in your disaster supply kit; and add items to meet the household needs for children, parents, individuals with disabilities or other access and functional needs or pets.

Hurricane Warning (conditions are expected within 36 hrs)

- Follow evacuation orders from local officials, if given.
- Check-in with family and friends by texting or using social media.
- Follow the hurricane timeline preparedness checklist, depending on when the storm is anticipated to hit and the impact that is projected for your location.

What to do when a hurricane is 6 hours from arriving

- If you’re not in an area that is recommended for evacuation, plan to stay at home or where you are and let friends and family know where you are.
- Close storm shutters, and stay away from windows. Flying glass from broken windows could injure you.
- Turn your refrigerator or freezer to the coldest setting and open only when necessary. If you lose power, food will last longer. Keep a thermometer in the refrigerator to be able to check the food temperature when the power is restored.
- Turn on your TV/radio, or check your city/county website every 30 minutes in order to get the latest weather updates and emergency instructions.

What to do when a hurricane is 6-18 hours from arriving

- Turn on your TV/radio, or check your city/county website every 30 minutes in order to get the latest weather updates and emergency instructions.
- Charge your cell phone now so you will have a full battery in case you lose power.

What to do when a hurricane is 18-36 hours from arriving

- Bookmark your city or county website for storm updates and emergency instructions.
- Bring loose, lightweight objects inside that could become projectiles in high winds (e.g., patio furniture, garbage cans); anchor objects that would be unsafe to bring inside (e.g., propane tanks); and trim or remove trees close to buildings.
- Cover all of your home's windows. Permanent storm shutters offer the best protection for windows. A second option is to board up windows with 5/8" exterior grade or marine plywood, cut to fit and ready to install.

What to do when a hurricane is 36 hours from arriving

- Turn on your TV or radio to get latest weather updates and emergency instructions.
- Build or restock your emergency preparedness kit. Include food and water sufficient for at least three days, medications, a flashlight, batteries, cash, and first aid.
- Plan how to communicate with family members if you lose power. For example, you can call, text, email or use social media. Remember that during disasters, sending text messages is usually reliable and faster than making phone calls because phone lines are often overloaded.
- Review your evacuation plan with your family. You may have to leave quickly.
- Keep your car in good working condition, and keep the gas tank full; stock your vehicle with emergency supplies and a change of clothes.

After a Hurricane

- Listen to local officials for updates and instructions.
- Check-in with family and friends by texting or using social media.
- Return home only when authorities indicate it is safe.
- Watch out for debris and downed power lines.
- Avoid walking or driving through flood waters. Just 6 inches of moving water can knock you down, and one foot of fast-moving water can sweep your vehicle away.
- Avoid flood water as it may be electrically charged from underground or downed power lines and may hide dangerous debris or places where the ground is washed away.
- Photograph the damage to your property in order to assist in filing an insurance claim.
- Do what you can to prevent further damage to your property, (e.g., putting a tarp on a damaged roof), as insurance may not cover damage that occurs after the storm.

When there is no hurricane: Make a hurricane plan

- Know your hurricane risk. Talk to your local emergency management agency.
- Make an emergency plan.
- Build or restock your basic disaster supplies kit, including food and water, a flashlight, batteries, chargers, cash, and first aid supplies.
- Consider buying flood insurance.
- Familiarize yourself with local emergency plans. Know where to go and how to get there should you need to get to higher ground or to evacuate.
- Stay tuned to local wireless emergency alerts, TV, or radio for weather updates, emergency instructions, or evacuation orders.

Scales and Measurement (Hurricanes)

Hurricanes are among nature's most powerful and destructive phenomena. On average, 12 tropical storms, 6 of which become hurricanes form over the Atlantic Ocean, Caribbean Sea, or Gulf of Mexico during the hurricane season which runs from June 1 to November 30 each year. In the Central Pacific Ocean, an average of 3 tropical storms, 2 of which become hurricanes form or move over the area during the hurricane season, which runs from June 1 to November 30 each year. Guam, the Northern Marianas and Micronesia experience typhoons all year round but the main season in July through November with a peak from mid-August to mid-September. Over a typical 2-year period, the U.S. coastline is struck by an average of 3 hurricanes, 1 of which is classified as a major hurricane (winds of 111 mph or greater). By knowing what actions to take before the hurricane season begins, when a hurricane approaches, and when the storm is in your area, as well as what to do after a hurricane leaves your area, you can increase your chance of survival.

NOAA outlines the anticipated effects of hurricanes with the following descriptions.

Category 1

A Category 1 hurricane has sustained winds of 74–95 mph, 64–82 kt, 119–153 km/h. *It has very dangerous winds and will produce some damage*: well-constructed frame homes could have damage to roofs, shingles, vinyl siding, and gutters. Large branches of trees will snap, and shallowly rooted trees may be toppled.

Category 2

A Category 2 hurricane has sustained winds of 96–110 mph, 83–95 kt, 154–177 km/h. *It has extremely dangerous winds that will cause extensive damage*: well-constructed frame homes could sustain major roof and siding damage. Many shallowly rooted trees will be snapped or uprooted and block numerous roads.

Category 3

A Category 3 hurricane is considered a major storm and has sustained winds of 111–129 mph, 96–112 kt, 178–208 km/h. *Devastating damage will occur*: well-built framed homes may incur major damage or removal of roof decking and gable ends. Many trees will be snapped or uprooted, blocking numerous roads.

Category 4

A Category 4 hurricane is considered a major storm and has sustained winds of 130–156 mph, 113–136 kt, 209–251 km/h. *Catastrophic damage will occur*: well-built framed homes can sustain severe damage with loss of most of the roof structure or some exterior walls. Most trees will be snapped or uprooted and power poles downed. Fallen trees and power poles will isolate residential areas.

Category 5

A Category 5 hurricane is considered a major storm and has sustained winds of 157 mph or higher, 137 kt or higher, 252 km/h or higher. *Catastrophic damage will occur*: a high percentage of framed homes will be destroyed with total roof failure and wall collapse. Fallen trees and power poles will isolate residential areas.

There are minor changes made to the wind scale from time to time. A one-mile-per-hour change in scale was made in 2012. This was for record-keeping purposes and has nothing to do with the actual damage potential of a hurricane. Do not disregard a warning based solely on category identification, and remember the storm surge when making your decisions on response and evacuation.

Aftermath (Hurricanes)

Category 1 Aftermath: Extensive damage to power lines and poles likely will result in power outages that could last a few hours to several days. Commercial and government infrastructure will be damaged. Access to resources such as food and water may be delayed until stores can reopen. Repairs to your home may be required. Essential government services like police and fire will be busy but available. Stability services such as sanitation and mail service may be delayed for a few days. Security will be maintained by local authority, and rule of law will be readily available.

Category 2 Aftermath: Near-total power loss is expected with outages that could last from several days to weeks. Infrastructure will be damaged and services will be interrupted for several days and may be limited for several weeks. Commercial and government infrastructure will be damaged. Access to resources such as food and water may be delayed or limited until some stores can open again. Repairs to shelter may be required. Essential government services like police and fire will be limited. Stability services such as sanitation and mail service may be delayed for a few days. Security will be maintained by local authority, and rule of law will be readily available.

Category 3 Aftermath: Electricity and water will be unavailable for several days to weeks after the storm passes. Infrastructure will be damaged to the point where outside resources will be required to provide any services. Services that do arrive will be limited for several weeks and may take months to restore at the local level. Resources such as food, water, and shelter will be very limited. Essential government services such as police and fire response will be limited or delayed in response if available at all. Stability services such as sanitation and mail service will be suspended for weeks. Security may be lost in some areas for several days, and rule of law will not be readily available. A major federal response will be required in addition to the assistance of neighboring states not also devastated by the event (remember that Hurricane Katrina was a "strong" category 3 hurricane; it was the widespread scope of the damage that added to the intensity of the aftermath).

Category 4 Aftermath: Power outages will last weeks to possibly months. Most of the area will be uninhabitable for weeks or months. Infrastructure will be devastated to the point that outside resources will be required to rescue and relocate survivors. Whole communities will cease to exist and will not return. Resources such as food, water, and shelter will not be available until it is brought in. No government services, essential or otherwise, will be available. Security will be lost for a limited period of time in some areas until restored with the assistance of the National Guard or activated federal military forces. Rule of law will not be readily available. Those not killed by the storm or drowned in the storm surge and flooding will face hunger, exposure to the elements, lawlessness, and infection from injuries and exposure to diseases.

Category 5 Aftermath: Power outages will last for weeks to possibly months. Most of the area will be uninhabitable for weeks or months. Infrastructure will be annihilated to the point that outside resources will be required to rescue and relocate survivors. Whole communities will cease to exist and will not return. Resources such as food, water, and shelter will not be available until it is brought in. No government services, essential or otherwise, will be available. Security will be lost for a limited period of time in some areas until restored with the assistance of the National Guard or activated federal military forces, and rule of law will not be readily available. Those not killed by the storm or drowned in the storm surge will face hunger, exposure to lawlessness, and infection from injuries and exposure to diseases. This is the same description as a category 4 hurricane. This is a designation for record-keeping purposes only and represents the difference between devastation and annihilation. If you're trapped in this level of aftermath, your risk of death or injury goes from highly probable to certain.

(Natural Disasters)
B. Earthquakes

General Description

Earthquakes are the result of movement in the earth's crust that releases large amounts of energy that shake the affected areas violently. They affect buildings, roads, and infrastructure, both buried as well as overhead such as water, gas, and power lines. Earthquakes are the very definition of a disaster. They are rare in their frequency, little- to no-warning, rapid-onset, and very destructive. An earthquake can undo in a minute what it has taken us whole lifetimes to create. As with the volcano scenario, people who live in earthquake zones do so at their own peril in the hopes that the "big one" will not strike in their lifetime.

Earthquakes (32)							
Effects	**Least**						**Worst**
Areas of Known Occurrence	Known	**1**	2	3	4	5	Unknown
Scales and Measurement	Before	1	2	3	4	**5**	After
Quick or Slow Onset	Days	1	2	3	4	**5**	Minutes
Area of Effect	Local	1	2	3	**4**	5	States
Duration of Effects	Hours	1	2	3	**4**	5	Months
Destruction of Infrastructure	Minor	1	2	3	**4**	5	Total
Disruption of Services	Minor	1	2	3	**4**	5	Total
Aftermath	Minor	1	2	3	4	**5**	Disaster

Major Threat

Everything, the sheer scale of the destruction releases a dizzying array of natural and man-made hazards and threats that the survivor must navigate to escape the surreal pandemonium of a major earthquake and its aftermath.

Survival Strategy

Readiness and resiliency. Surviving a major earthquake takes real skill: not just knowing what to do, but being ready to do what is necessary in a disaster situation. All the things we take for granted will not just be gone, but will change. Buildings will not be welcome shelters, but rather dangerous traps ready to collapse. The ground will not be firm, but will split and become soft with water or motion. The air we breathe will be filled with the gases and chemicals we are no longer able to contain. People will be driven to desperation, and desperation is not a good thing. You will need all of your self-control to stay as aware as you can be in order to move to a place of resources and security. Resiliency becomes a major factor in this size of an event and your ability to persevere through constant hardship and multiple setbacks will be paramount to your survival. Understand that many of the major fault lines in the U.S. are directly under large cities and will affect huge numbers of the population. This is especially true of the West Coast in the land of sunshine between the mountains and the sea.

Government Information Websites:

Federal Emergency Management Administration (FEMA) — http://www.ready.gov/

Earthquake Actions

An earthquake is the sudden, rapid shaking of the earth, caused by the breaking and shifting of subterranean rock as it releases strain that has accumulated over a long time. Initial mild shaking may strengthen and become extremely violent within seconds. Additional earthquakes, called aftershocks, may follow the initial earthquake. Most are smaller than the initial earthquake but larger magnitude aftershocks also occur. Earthquakes may cause household items to become dangerous projectiles; cause buildings to move off foundations or collapse, damage utilities, roads and structures such as bridges and dams, or cause fires and explosions. They may also trigger landslides, avalanches, and tsunamis.

All 50 states and 5 U.S. territories are at some risk for earthquakes. The risk is higher in identified seismic zones including the San Andreas Fault in California, the Cascadia Subduction Zone in western Oregon and Washington and Alaska, the New Madrid Fault Zone spanning areas in Missouri, Arkansas, Tennessee, and Kentucky, and areas on the east coast including the mid-Atlantic, coastal South Carolina and New England..

Earthquakes can happen at any time of the year and occur without warning, although they usually last less than one minute. Aftershocks following the initial earthquake may occur for hours, days, or even months. Earthquakes cannot be predicted — although scientists are working on it!

Before an Earthquake

- Before an earthquake occurs, secure items that could fall or move and cause injuries or damage (e.g., bookshelves, mirrors, light fixtures, televisions, computers, hot water heaters. Move beds away from windows and secure any hanging items over beds, couches, cribs or other places people sit or lie.
- Practice how to "Drop, Cover, and Hold On!"
  - Plan and practice how to Drop to the ground, Cover your head and neck with your arms, and if a safer place is nearby that you can get to without exposing yourself to flying debris, crawl to it and Hold On to maintain cover.
  - To react quickly you must practice often. You may only have seconds to protect yourself in an earthquake.
- Store critical supplies (e.g., water, medication) and documents.
- Plan how you will communicate with family members, including multiple methods by making a family emergency communication plan.
- Consult a structural engineer to evaluate your home and ask about updates to strengthen areas that would be weak during an earthquake. When choosing your home or business to rent or buy, check if the building is earthquake resistant per local building codes.

During an Earthquake

If you are inside a building:

- Drop down onto your hands and knees so the earthquake doesn't knock you down. Drop to the ground (before the earthquake drops you!)
- Cover your head and neck with your arms to protect yourself from falling debris.
  - If you are in danger from falling objects, and you can move safely, crawl for additional cover under a sturdy desk or table.
  - If no sturdy shelter is nearby, crawl away from windows, next to an interior wall. Stay away from glass, windows, outside doors and walls, and anything that could fall, such as light fixtures or furniture.

Dependent on the severity of the earthquake(s) and the geographic area of effects, it may take several days for ground rescue to arrive. This may seem like a long time, but remember they have to travel to you and find you. Once roads are reopened, the situation will improve rapidly.

(Shutterstock)

C. Personal Plans and Readiness

Earthquakes are one of the most destructive events imaginable due to the area of the damage and the level of destruction. Services are not just interrupted. The infrastructure required to provide those services is destroyed. The remaining infrastructure is fragile at best and immediately strained to its remaining capacity. Take this into consideration when making your plans and preparations.

You will need to move, sustain, and communicate in full measures and potentially for extended periods of time. Because you may well be away from your home when the earthquake strikes, you will want to have emergency kits in your car and at work. These smaller kits should be able to sustain you for 24 hours and be designed to help you move to your residence so you can rendezvous with your family and collect your full survival kit.

(Natural Disasters)
C. Wildfires

General Description

A wildfire is an uncontrolled fire within grassland, forest, or scrub-brush terrain. The fire's origin can be arson, carelessness, or natural. Wildfires build quickly and are hard to control at the outset. They pose a serious risk to life and property. The main components of fire are fuel, air, and an ignition source. The same is true of wildfire, but emphasis is placed on fire's natural counter element of water. Lack of moisture in the ground, vegetation, and air make wildfires more likely.

Wildfires (23)							
Effects	**Least**						**Worst**
Areas of Known Occurrence	Known	1	2	3	**4**	5	Unknown
Scales of Measurement	Before	1	2	3	4	**5**	After
Quick or Slow Onset	Days	1	2	**3**	4	5	Minutes
Area of Effect	Local	1	**2**	3	4	5	States
Duration of Effects	Hours	1	2	**3**	4	5	Months
Destruction of Infrastructure	Minor	1	**2**	3	4	5	Total
Disruption of Services	Minor	1	**2**	3	4	5	Total
Aftermath	Minor	1	**2**	3	4	5	Disaster

Weather conditions such as high temperatures and low relative humidity dry out fuels that feed the wildfire. This can create a situation where fuel will more readily ignite and burn more intensely. Wind is also a significant factor. The greater a wind, the faster a fire will spread and the more intensely it will burn. Wildfires tend to burn quickly and completely, consuming homes down to the foundation.

Major Threat

Wildfire threatens in a variety of ways. Other than the obvious threat of burning, there are the threats of smoke and speed. Smoke can disorient and incapacitate quickly. Even the most familiar locations and routes can become alien when shrouded by smoke. This effect is made worse by smoke inhalation, which causes cough, shortness of breath, hoarseness, headache, and mental confusion. Smoke can also be as hot as fire, causing burns to the nose, mouth, face, and lungs. Speed is another factor. Under the right conditions, which are not uncommon in a wildfire, the fire can spread faster than a human can run. Wind and upward incline are the two greatest factors in fire speed.

Survival Strategy

Move quickly away from the fire, the fire's path, and any potential fuel. Due to the uncertain behavior of wildfire, it is best to get out of its way as quickly as possible. This should include avoiding locations where you can escape the flames but still be harmed by heat and smoke.

Government Information Websites:

National Weather Service (NWS) — http://www.weather.gov/

Federal Emergency Management Administration (FEMA) — http://www.ready.gov/

Wildfire Actions

Wildfires can occur anywhere and can destroy homes, businesses, infrastructure, natural resources, and agriculture. For more information, download the How to Prepare for a Wildfire guide, which provides the basics of wildfires, explains how to protect yourself and your property, and details the steps to take now so that you can act quickly when you, your home, or your business is in danger.

A wildfire is an unplanned, unwanted fire burning in a natural area, such as a forest, grassland, or prairie. As building development expands into these areas, homes and businesses may be situated in or near areas susceptible to wildfires. This is called the wildland urban interface.

Wildfires can cause death or injury to people and animals, damage or destroy structures, and disrupt community services including transportation, gas, power, communications, and other services. The impact may cover large areas with extensive burning, embers traveling more than a mile away from the wildfire itself, and smoke causing health issues for people far away from the fire. Wildfires damage watersheds leave areas prone to flooding and mudslides for many years.

Wildfires can occur anywhere in the country. They can start in remote wilderness areas, in national parks, or even in your back yard. Wildfires can start from natural causes, such as lightning, but most are caused by humans, either accidentally—from cigarettes, campfires, or outdoor burning—or intentionally.

Wildfires can occur at any time throughout the year, but the potential is always higher during periods with little or no rainfall, which make brush, grass, and trees dry and burn more easily. High winds can also contribute to spreading the fire. Your community may have a designated wildfire season when the risk is particularly high.

Fire Weather Watch

Fire weather watch = dangerous fire weather conditions are possible over the next 12 to 72 hours

- Turn on your TV/radio. You'll get the latest weather updates and emergency instructions.
- Know where to go. If you are ordered to evacuate, know the route to take and have plan of where you will go. Check-in with your friends and family.
- Keep your car fueled, in good condition, and stocked with emergency supplies and a change of clothes.

Before Wildfire Season

Make a Wildfire plan

- Know your wildfire risk.
- Familiarize yourself with local emergency plans. Know where to go and how to get there should you need to evacuate.
- Make a wildfire emergency plan including an evacuation plan and a communication plan.
- Many communities have text or email alerting systems for emergency notifications. To find out what alerts are available in your area, search the Internet with your town, city, or county name and the word "alerts."
- Build or restock your emergency preparedness kit, including a flashlight, batteries, cash, and first aid supplies.
- Stay tuned to your phone alerts, TV, or radio, for weather updates, emergency instructions or evacuation orders.

Landslide & Debris Flow Actions

Landslides occur in all U.S. states and territories and can be caused by a variety of factors including earthquakes, storms, volcanic eruptions, fire and by human modification of land. Landslides can occur quickly, often with little notice and the best way to prepare is to stay informed about changes in and around your home that could signal that a landslide is likely to occur.

In a landslide, masses of rock, earth or debris move down a slope. Debris and mud flows are rivers of rock, earth, and other debris saturated with water. They develop when water rapidly accumulates in the ground, during heavy rainfall or rapid snowmelt, changing the earth into a flowing river of mud or "slurry." They can flow rapidly, striking with little or no warning at avalanche speeds. They also can travel several miles from their source, growing in size as they pick up trees, boulders, cars and other materials.

Landslide problems can be caused by land mismanagement, particularly in mountain, canyon and coastal regions. In areas burned by forest and brush fires, a lower threshold of precipitation may initiate landslides. Land-use zoning, professional inspections, and proper design can minimize many landslide, mudflow, and debris flow problems.

Landslide Warning Signs

- Changes occur in your landscape such as patterns of storm-water drainage on slopes (especially the places where runoff water converges) land movement, small slides, flows, or progressively leaning trees.
- Doors or windows stick or jam for the first time.
- New cracks appear in plaster, tile, brick, or foundations.
- Outside walls, walks, or stairs begin pulling away from the building.
- Slowly developing, widening cracks appear on the ground or on paved areas such as streets or driveways.
- Underground utility lines break.
- Bulging ground appears at the base of a slope.
- Water breaks through the ground surface in new locations.
- Fences, retaining walls, utility poles, or trees tilt or move.
- A faint rumbling sound that increases in volume is noticeable as the landslide nears.
- The ground slopes downward in one direction and may begin shifting in that direction under your feet.
- Unusual sounds, such as trees cracking or boulders knocking together, might indicate moving debris.
- Collapsed pavement, mud, fallen rocks, and other indications of possible debris flow can be seen when driving (embankments along roadsides are particularly susceptible to landslides).

Before a Landslide

- To begin preparing, you should build an emergency kit and make a family communications plan.
- Prepare for landslides by following proper land-use procedures - avoid building near steep slopes, close to mountain edges, near drainage ways or along natural erosion valleys.

- Become familiar with the land around you. Learn whether debris flows have occurred in your area by contacting local officials. Slopes where debris flows have occurred in the past are likely to experience them in the future.
- Get a ground assessment of your property.
- Consult a professional for advice on appropriate preventative measures for your home or business, such as flexible pipe fittings, which can better resist breakage.
- Protect your property by planting ground cover on slopes and building retaining walls.
- In mudflow areas, build channels or deflection walls to direct the flow around buildings. Be aware, however, if you build walls to divert debris flow and the flow lands on a neighbor's property, you may be liable for damages.
- If you are at risk from a landslide talk to your insurance agent. Debris flow may be covered by flood insurance policies from the National Flood Insurance Program.

During a Landslide

- During a severe storm, stay alert and awake. Many deaths from landslides occur while people are sleeping.
- Listen to local news stations on a battery-powered radio for warnings of heavy rainfall.
- Listen for unusual sounds that might indicate moving debris, such as trees cracking or boulders knocking together.
- Move away from the path of a landslide or debris flow as quickly as possible. The danger from a mudflow increases near stream channels and with prolonged heavy rains. Mudflows can move faster than you can walk or run. Look upstream before crossing a bridge and do not cross the bridge if a mudflow is approaching.
- Avoid river valleys and low-lying areas.
- If you are near a stream or channel, be alert for any sudden increase or decrease in water flow and notice whether the water changes from clear to muddy. Such changes may mean there is debris flow activity upstream so be prepared to move quickly.
- Curl into a tight ball and protect your head if escape is not possible.

After a Landslide

- Go to a designated public shelter if you have been told to evacuate or you feel it is unsafe to remain in your home. Text SHELTER + your ZIP code to 43362 (4FEMA) to find the nearest shelter in your area (example: shelter 12345).
- Stay away from the slide area. There may be danger of additional slides.
- Listen to local radio or television stations for the latest emergency information.
- Watch for flooding, which may occur after a landslide or debris flow. Floods sometimes follow landslides and debris flows because they may both be started by the same event.
- Check for injured and trapped persons near the slide, without entering the direct slide area. Direct rescuers to their locations.
- Look for and report broken utility lines and damaged roadways and railways to appropriate authorities. Reporting potential hazards will get the utilities turned off as quickly as possible, preventing further hazard and injury.
- Check the building foundation, chimney, and surrounding land for damage. Damage to foundations, chimneys, or surrounding land may help you assess the safety of the area.
- Replant damaged ground as soon as possible since erosion caused by loss of ground cover can lead to flash flooding and additional landslides in the near future.
- Seek advice from a geotechnical expert for evaluating landslide hazards or designing corrective techniques to reduce landslide risk.

Types of Volcanoes

The three types of volcanoes are shield, composite cone, and cinder cone.

Shield Cone Volcanoes

Shield cone volcanoes form over a series of eruptions. Looking like a long low shield, they can be many miles across and so large they are unrecognizable as volcanoes. They tend to have low viscosity and low gas content. Because they have a low dome, they release pressure and tend to have mild eruptions. The two examples of this type of volcano are Mona Loa in Hawaii and the Yellow Stone caldera on the border of Wyoming and Idaho.

Composite Cone Volcanoes

Composite cone volcanoes are the classic volcano shape, being proportionally taller than and not as wide as shield cones. They form over a large primary fault or fissure that feeds magma from the mantle (the molten rock under the surface) into the earth's crust, forming a chamber that builds pressure over time. The magma is viscous (flowing) and has a high gas content, which means more pressure. They tend to have fewer but more-violent eruptions.

Cinder Cone Volcanoes

Cinder cone volcanoes are much smaller versions of a composite cone that have equally proportional effects. They tend to push debris out of the cone rather than have major eruptions. This is in contrast to the volcanoes of Hawaii, which erupt and release pressure on a regular basis.

Forms of Volcano Destruction

This destruction comes in the form of lahars, tephra, pyroclastic flows, and lava flows.

Lahars

Lahars are debris flows made up of surface materials like snow, earth, wood, and stone. Hot acid water weakens the stone on the walls of the volcanic cone, and when it releases, it sends water-rich flows of stone, wood, and earth for many tens of miles. Lahars move quickly and completely destroy everything in their path.

Tephra

Tephra is the column of hot gases, ash, and coarse debris blown into the air by an eruption. It can throw large rocks for miles, and the ash can travel for hundreds of miles. The ash cloud can reach areas far away from the eruption. This causes disruptions in air travel, air quality, water quality, and other aspects of living, which can make survival difficult. Heavy ash falls and "snows" back down to the earth, making it hard to breathe and clogging machinery. At the sight of the eruption, this cloud rises thousands of feet into the air and at a certain point becomes too heavy to support itself. Then a majority of the cloud falls back down to earth as a giant cloud of incredibly hot acidic gas and ash. This is called pyroclastic flow.

Pyroclastic Flows

Pyroclastic flows are huge clouds of heavier-than-air hot gases and burning ash that can travel at more than 100 miles per hour (faster than you can drive away from it) and can extend for up to 20 miles. They incinerate and crush everything in their path.

Lava Flows

Lava flows are made up of molten rock from the earth's mantle. The pressure of the volcano pushes the magma of the mantle to the surface. Once on the surface, magma is called lava. The lava from the composite cones of the Northwest and Alaska is think and viscous. The lava from the shield volcanoes in Hawaii is thinner and flows more quickly. Either way, it consumes anything it comes into contact with.

Tornado Actions

A tornado is a violently rotating column of air that extends from a thunderstorm to the ground and is often—although not always—visible as a funnel cloud. Lightening and hail are common in thunderstorms that produce tornadoes. Tornadoes cause extensive damage to structures and disrupt transportation, power, water, gas, communications, and other services in its direct path and in neighboring areas. Related thunderstorms can cause heavy rains, flash flooding, and hail

About 1,200 tornadoes hit the United States every year and every state is at risk. Most tornadoes in the United States occur east of the Rocky Mountains with concentrations in the central and southern plains, the Gulf Coast and Florida.

Tornadoes can strike in any season, but occur most often in the spring and summer months. They can occur at all hours of the day and night, but are most likely to occur between 3 p.m. and 9 p.m.

Tornado Facts

The extent of destruction caused by tornadoes depends on the tornado's intensity, size, path, time of day, and amount of time it is on the ground. Wind from tornadoes can reach more than 300 miles per hour, and damage paths can be more than 1 mile wide and 50 miles long. Wind from tornadoes can destroy buildings and trees, transform debris into deadly projectiles, and roll vehicles.

- They may strike quickly, with little or no warning.
- They may appear nearly transparent until dust and debris are picked up or a cloud forms in the funnel.
- The average tornado moves Southwest to Northeast, but tornadoes have been known to move in any direction.
- Tornadoes can accompany tropical storms and hurricanes as they move onto land.
- Waterspouts are tornadoes that form over water.

Before a Tornado

- Identify safe rooms built to FEMA criteria or ICC500 storm shelters or other potential protective locations in sturdy buildings near your home, work, and other locations you frequent so you have a plan for where you will go quickly for safety when there is a Warning or an approaching tornado.
- For schools, malls, and other buildings with long-span roofs or open space plans, or many occupants, ask the building manager to identify the best available refuge.
- Build an emergency kit and make a family communications plan.
- Listen to NOAA Weather Radio or to commercial radio or television newscasts for the latest information. In any emergency, always listen to the instructions given by local emergency management officials.
- Be alert to changing weather conditions. Look for approaching storms.
- Look for the following danger signs: Dark, often greenish sky; large hail; a large, dark, low-lying cloud (particularly if rotating); and/or loud roar, similar to a freight train.
- If you see approaching storms or any of the danger signs, be prepared to take shelter immediately.

Drought and Famine

When considering drought and famine in a disaster context it is prudent to see both scenarios as a result of failures in other areas. Other factors do not cause drought and famine. The other factors allow them to become disasters.

Drought and Famine are both instances where resources run out. In each case the onset of the situation is evident and observable. As obvious as it may seem that a drought or a famine is possible or even imminent in a given area, many people still get caught in the area of effect due to other factors. Why do drought and famine become a disaster in some areas and not in others?

In the case of the American dust bowl of the 1930s the situation was a combination of agricultural practices and economic collapse. In that case the drought stressed the land to the point of ecosystem collapse and the national economic situation limited the resources of the government to respond. This predicated greater economic hardship, unchecked environmental damage, civil unrest, mass migration and humanitarian crisis.

Beginning about 2000 and moving forward the Midwest of the United States has seen a new drought of greater intensity than the one that struck the region in the 1930s. Despite incredible damage the effects of the drought have not resulted in the same levels of disruption and hardship. There are several factors that account for this. First, the lessons learned by the agricultural community and government during the first great drought have been applied in growing practices and government regulations to ensure the dust bowl did not repeat itself. Secondly, the economy is strong in the U.S. and there are resources to mitigate most of the effects of the drought. The losses are limited to reductions in cattle and agricultural production rather than a collapse of the food production system.

Compare this positive result with the repeated devastating drought and famine events and humanitarian crises across Africa over the last 30 years. In most of the cases of African drought and famine disasters there was a combination of drought, agricultural stress on the land and civil war. Of significance in each case was the inability or unwillingness of local and national governments to respond to the situation and mitigate either the causes or effects. Limitations on movement, lack of resources at the local level, armed conflict, cultural stresses and ineffective government all converged to create the disaster situation.

As the availability of clean water becomes stressed by overuse and pollution the "tipping point" that moves a water shortage from an important conservations issue to a humanitarian crisis will be dependent upon those factors that restrict actions which assist in keeping the situation from becoming a disaster. This will include cultural habits of conservation in general (not just water use), effective water conservation efforts by municipalities, effective state and national water management policies, available resources and willingness of the government to provide regulation, guidance and resources for drought mitigation, and most importantly, a civil political and cultural environment in which to apply those mitigation techniques.

B. Outlooks, Watches, Warnings, & Advisories

Remember that these alerts and bulletins are designed to inform and instruct in order to cause the public to change their behavior or take specific action for their safety. Be aware of these communications.

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Weather Alerts

The National Weather Service and its pendant offices communicate alerts in the form of *outlooks, advisories, watches, and warnings* to the public. They provide real-time notification of weather events that threaten local areas.

Emergency Management Bulletins

Emergency-management agencies will broadcast *emergency management bulletins* in the case of disasters or special events when officials need to communicate public-safety information or special instructions to the public. In many cases both weather alerts and emergency management bulletins will be broadcast during a disaster situation.

Outlook

Indicates the potential for significant weather events up to seven days in advance with a forecaster confidence around 30%.

Watch

Indicates that conditions are favorable for the particular weather event in and near the watch area, which may pose a risk to life and property. Watches are issued up to 48 hours in advance with forecaster confidence around 50%.

Warning/Advisory

Indicates that a particular weather event is imminent or occurring. **Advisories** are issued if the weather event will lead to nuisance conditions, while **warnings** are issued for significant weather events that will pose a risk to life and property. Warnings and advisories are issued up to 48 hours in advance with forecaster confidence of at least 80%.

Alert Notifications

Alert notifications will come in the form of the following reports. This list includes reports you are most likely to hear during drought and famine, but this is not an all-inclusive list. Be careful to listen for emergency communications and take information as you can get it. Remember that official government emergency communications may be more reliable than unofficial sources. The alerts you will want to listen for are:

Wind Advisory

Issued when sustained winds of 30 to 39 mph are expected for one hour or longer.

Heat Advisory

Issued when maximum daytime heat index values are expected to reach or exceed 105°F on at least two consecutive days, with intermediate low temperatures of 75°F or higher.

Excessive Heat Warning

Issued when maximum daytime heat index values are expected to reach or exceed 110°F on at least two consecutive days, with intermediate low temperatures of 75°F or higher. *An Excessive Heat Watch is issued when these conditions may be met 12 to 48 hours in the future.*

Air Stagnation Advisory

Issued only at the request of the Environmental Protection Agency (EPA) whenever atmospheric conditions are stable enough to cause air pollutants to accumulate in a given area.

Blowing Dust Advisory

Issued when blowing dust is expected to reduce visibility to between ¼ and 1 mile, generally with winds of 25 mph or greater.

Dust Storm Warning

Issued when blowing dust is expected to reduce visibility frequently to ¼ mile or less, generally with winds of 25 mph or more.

Emergency Management Bulletins

These are issued by local government emergency management agencies to inform the public of the nature and area of effect of the identified hazard. These bulletins will include important information on current conditions and identified hazards, probability of additional events, road closures, location of relief centers, special instructions, and other appropriate information.

Chap 6

Man-made Disasters

This chapter provides a description of three different types of man-made disasters. The conversation starts out very general and gets more specific as each description progresses. This is done on purpose because your preparations will be based on the generalities of the type of event. Your actual survival activities during a disaster will be based on the specific situation with that particular event. This combination of general preparation and specific action is not a contradiction but rather an important method of thinking. When you understand the generalities of a man-made disaster it helps you anticipate so you can take specific actions to increase your chances of survival. You will not be able to do everything to protect yourself, your loved ones and your property, so you will need to prioritize and be able to choose the right things to survive.

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Man-made Disasters

Hazardous Material Incidents

Hazardous materials come in the form of explosives, flammable and combustible substances, poisons and radioactive materials. Hazards can occur during production, storage, transportation, use or disposal.

During a Hazardous Material Incident	
If you are:	**Then:**
Asked to Evacuate	• Do so immediately. • Stay tuned to a radio or television for information on evacuation routes, temporary shelters, and procedures. • If you have time, minimize contamination in the house by closing all windows, shutting all vents, and turning off attic fans. • Take pre-assembled disaster supplies. • Remember to help your neighbors who may require special assistance--infants, elderly people and people with access and functional needs.
Caught Outside	• Stay upstream, uphill, and upwind. In general, try to go at least one-half mile (usually 8-10 city blocks) from the danger area. • Do not walk into or touch any spilled liquids, airborne mists, or condensed solid chemical deposits. Try not to inhale gases, fumes and smoke. If possible, cover mouth with a cloth or mask while leaving the area. • Stay away from accident victims until hazardous material has been identified.
In a Motor Vehicle	• Stop and seek shelter in a permanent building. • If you must remain in your car, keep car windows and vents closed and shut off the air conditioner and heater.
Requested to Stay Indoors	• Go into your pre-selected shelter room, bring pets inside. • Close and lock all exterior doors and windows. Close vents, fireplace dampers, and as many interior doors as possible. • Turn off air conditioners and ventilation systems, or set ventilation systems to 100 percent recirculation so that no outside air is drawn into the building. • If gas/vapors may have entered bldg, take shallow breaths through cloth or towel. • Avoid eating or drinking any food or water that may be contaminated. • Seal gaps under and around the following areas with wet towels, plastic sheeting, duct tape, wax paper or aluminum foil: - Doorways and windows - Air conditioning units - Bathroom and kitchen exhaust fans - Stove and dryer vents with duct tape and plastic sheeting

After a Hazardous Materials Incident

- Listen to local radio or television stations for the latest emergency information.
- Go to a designated public shelter if you have been told to evacuate or you feel it is unsafe to remain. Text SHELTER + your ZIP code to 43362 (4FEMA).
- Act quickly if you come in contact with or have been exposed to hazardous chemicals.
- Follow decontamination instructions from local authorities; seek medical treatment for unusual symptoms as soon as possible.
- Place exposed clothing and shoes in tightly sealed containers; advise everyone who comes in to contact with you that you may have been exposed to a toxic substance.
- Return home only when authorities say it is safe. Open windows and vents and turn on fans to provide ventilation.
- Find out from local authorities how to clean up your land and property.
- Report any lingering vapors or other hazards to local emergency services.

Nuclear Blast Actions

A nuclear blast is an explosion with intense light and heat, a damaging pressure wave, and widespread radioactive material that can contaminate the air, water, and ground surfaces for miles around. A nuclear device can range from a weapon carried by an intercontinental missile, to a small portable nuclear device transported by an individual. All nuclear devices cause deadly effects when exploded.

The danger of a massive strategic nuclear attack on the United States is predicted by experts to be less likely today. However, terrorism, by nature, is unpredictable.

Protection from Radiation

The three factors for protecting oneself from radiation and fallout are distance, shielding and time.

- Distance - the more distance between you and the fallout particles, the better. An underground area such as a home or office building basement offers more protection than the first floor of a building.
- Shielding - the heavier and denser the materials - thick walls, concrete, bricks, books and earth - between you and the fallout particles, the better.
- Time - fallout radiation loses its intensity fairly rapidly. In time, you will be able to leave the fallout shelter. Radioactive fallout poses the greatest threat to people during the first two weeks, by which time it has declined to about 1 percent of its initial radiation level.

Taking Shelter

Taking shelter during a nuclear blast is absolutely necessary. There are two kinds of shelters:

- **Blast shelters** are specifically constructed to offer some protection against blast pressure, initial radiation, heat and fire. But even a blast shelter cannot withstand a direct hit from a nuclear explosion.
- **Fallout shelters** do not need to be specially constructed for protecting against fallout. They can be any protected space, provided that the walls and roof are thick and dense enough to absorb the radiation given off by fallout particles.

Remember that any protection, however temporary, is better than none at all, and the more shielding, distance and time you can take advantage of, the better.

Before a Nuclear Blast

- Build an Emergency Supply Kit
- Make a Family Emergency Plan.
- Find out from officials if any public buildings in your community have been designated as fallout shelters.
- If your community has no designated fallout shelters, make a list of potential shelters near your home, workplace and school, such as basements, subways, tunnels, or the windowless center area of middle floors in a high-rise building.
- During periods of heightened threat increase your disaster supplies to be adequate for up to two weeks.

During a Nuclear Blast

- Listen for official information and follow the instructions provided by emergency response personnel.

B. Explosions & Chemical Spills

General Description

This is what is meant by a hazard: a dangerous chemical or gas that is contained so as not to be harmful to the general public. When a hazard-containment system fails, regardless of if the event is catastrophic as in the case of an explosion or a failure of containment as in the case of a leak, the result is similar in regard to the threat to your health. The threats will be in the form of explosives, flammable and combustible substances, poisons, and radioactive materials.

Explosions and Chemical Spills (22)							
Effects	**Least**						**Worst**
Areas of Known Occurrence	Known	**1**	2	3	4	5	Unknown
Scales of Measurement	Before	1	2	3	4	**5**	After
Quick or Slow Onset	Days	1	2	3	4	**5**	Minutes
Area of Effect	Local	1	2	3	4	5	States
Duration of Effects	Hours	1	2	**3**	4	5	Months
Destruction of Infrastructure	Minor	**1**	2	3	4	5	Total
Disruption of Services	Minor	1	2	3	4	5	Total
Aftermath	Minor	1	2	**3**	4	5	Disaster

Major Threat

Immediate threat to life and health: burning, choking, and rapid-onset illness.

Survival Strategy

Listen to the warnings, follow the instructions, and leave the area. Information is the most powerful tool you can have in the case of an explosion or chemical release.

A. The BIG EIGHT

1. Areas of Known Occurrence, Possibility

Even with the usually effective precautions provided in hazard control, industrial and transportation accidents can happen at any time. Knowing your proximity to industrial and transportation hazards, to include downwind factors, will help you identify potential risks. There are currently over 100 million Americans who live within a potential accident area of effect. The Environmental Protection Agency (EPA) keeps an accurate list of both incidence and public information on potential hazards. This site is a valuable tool for both communities and individual families.

Government Information Websites:

National Oceanic and Atmospheric Administration (NOAA) — http://www.noaa.gov/

National Weather Service (NWS) — http://www.weather.gov/

Federal Emergency Management Administration (FEMA) — http://www.ready.gov/

Environmental Protection Agency (EPA) — http://www.epa.gov/TRI/

(Man-made Disasters)
D. Terrorist Incidents

Terrorists use many forms of unlawful violence or threats of violence to instill fear and coerce governments or societies to further a variety of political, social, criminal, economic, and religious ideologies. Terrorists threaten the national power, sovereignty, and interests of the United States and our allies. Terrorists organize and operate in a number of ways. Some operate within transnational networks, others operate as small independent groups, and others operate alone. The terrorist threat is amplified by the proliferation of weapons of mass destruction (WMD) and their potential use by terrorists.

(Dan Howell / Shutterstock.com)

Terrorism Definition

Terrorism has been described as both a tactic and strategy; a crime and a holy duty; a justified reaction to oppression and an inexcusable action. Definition may depend on whose point of view is being represented. Terrorism has often been an effective tactic for the weaker side in a conflict.

"Domestic terrorism" means activities with the following three characteristics:

- Involve acts dangerous to human life that violate federal or state law;
- Appear intended (i) to intimidate or coerce a civilian population; (ii) to influence the policy of a government by intimidation or coercion; or (iii) to affect the conduct of a government by mass destruction, assassination, or kidnapping; and
- Occur primarily within the territorial jurisdiction of the U.S.

18 U.S.C. § 2332b defines the term "federal crime of terrorism" as an offense that:

- Is calculated to influence or affect the conduct of government by intimidation or
- coercion, or to retaliate against government conduct; and
- Is a violation of one of several listed statutes, including § 930(c) (relating to killing or attempted killing during an attack on a federal facility with a dangerous weapon); and § 1114 (relating to killing or attempted killing of officers and employees of the U.S.).

The Terrorist Threat (An Overview)

Terrorism has evolved as a preferred tactic for ideological extremists around the world, directly or indirectly affecting millions of people. Terrorists use many forms of unlawful violence or threats of violence to instill fear and coerce governments or societies to further a variety of political, social, criminal, economic, and religious ideologies. Terrorists threaten the national power, sovereignty, and interests of the United States and our allies. Terrorists organize and operate in a number of ways. Some operate within transnational networks, others operate as small independent groups, and others operate alone.

A **hybrid threat** is the diverse and dynamic combination of regular forces, irregular forces, and/or criminal elements all unified to achieve mutually-benefiting effects. Hybrid threats are innovative, adaptive, globally connected, networked, and embedded in the clutter of local populations. They can operate conventionally and unconventionally, employing adaptive and asymmetric combinations of traditional, irregular, and criminal tactics and using traditional military capabilities in old and new ways.

Counterterrorism activities and operations are taken to neutralize terrorists, their organizations, and networks in order to render them incapable of using violence to instill fear and coerce governments or societies to achieve their goals. The purpose of CT is to disrupt, isolate, and dismantle terrorist organizations and networks to render them incapable of striking the homeland, US facilities and personnel, or US interests abroad. CT also includes crisis response operations to respond to imminent terrorist threats or incidents when preemption and preclusion are not successful. In addition to increasing law enforcement capabilities for counterterrorism, the United States, like many nations, has developed specialized, but limited, military CT capabilities.

Weapons of mass destruction (WMD) are chemical, biological, radiological, or nuclear (CBRN) weapons or devices capable of a high order of destruction and/or causing mass casualties. The terrorist threat is amplified by the proliferation of WMD and their potential use by terrorists. The existence of these materials and the potential for use by actors of concern precipitates the need to plan, prepare for, and counter their use.

Critical infrastructure is a term used by governments to describe assets that are essential for the functioning of a society and economy - the infrastructure. **Protection** is the preservation of the effectiveness and survivability of mission-related military and nonmilitary personnel, equipment, facilities, information, and infrastructure deployed or located within or outside the boundaries of a given operational area.

Consequence management refers to measures to protect public health and safety, restore essential government services, and provide emergency relief to governments, businesses, and individuals affected by the consequences of terrorism. Incidents involving CBRN material produce a chaotic and hazardous environment requiring immediate response to minimize pain and suffering, reduce casualties, and restore essential infrastructure. Responders at the local, state, and federal levels may be overwhelmed by the magnitude of the incident, and U.S. DoD forces may be requested to provide additional support through the national response framework (NRF).

Refer to CTS1: The Counterterrorism, WMD & Hybrid Threat SMARTbook for further discussion. CTS1 topics and chapters include: the terrorist threat (characteristics, goals & objectives, organization, state-sponsored, international, and domestic), hybrid and future threats, forms of terrorism (tactics, techniques, & procedures), counterterrorism, critical infrastructure, protection planning and preparation, countering WMD, and consequence management (all hazards response).

(Man-made Disasters)
E. Active Shooters

Ref: Blair, J. Pete, and Schweit, Katherine W. (2014). A Study of Active Shooter Incidents, 2000 - 2013. Texas State University and Federal Bureau of Investigation, U.S. Department of Justice, Washington D.C. 2014.

Active shooter is a term used by law enforcement to describe a situation in which a shooting is in progress and an aspect of the crime may affect the protocols used in responding to and reacting at the scene of the incident. Unlike a defined crime, such as a murder or mass killing, the active aspect inherently implies that both law enforcement personnel and citizens have the potential to affect the outcome of the event based upon their responses.

(Sept 2013 Washington Navy Yard Shooting/Shane T. McCoy/U.S. Marshals)

The agreed-upon definition of an active shooter by U.S. government agencies—including the White House, U.S. Department of Justice/FBI, U.S. Department of Education, and U.S. Department of Homeland Security/Federal Emergency Management Agency—is "an individual actively engaged in killing or attempting to kill people in a confined and populated area."

Active Shooter Incidents (2000-2013)

Ref: Blair, J. Pete, and Schweit, Katherine W. (2014). A Study of Active Shooter Incidents, 2000 - 2013. Texas State University and Federal Bureau of Investigation, U.S. Department of Justice, Washington D.C. 2014, pp. 6-8.

In 2013, the president signed into law the Investigative Assistance for Violent Crimes Act of 2012, which granted the attorney general the authority to assist in the investigation of "violent acts and shootings occurring in a place of public use" and in the investigation of "mass killings and attempted mass killings at the request of an appropriate law enforcement official of a state or political subdivision."

Findings

In this study, the FBI identified 160 active shooter incidents, noting they occurred in small and large towns, in urban and rural areas, and in 40 of 50 states and the District of Columbia.

Though incidents occurred primarily in commerce and educational environments (70.0%), they also occurred on city streets, on military and other government properties, and in private residences, health care facilities, and houses of worship. The shooters victimized young and old, male and female, family members, and people of all races, cultures, and religions.

The findings establish an increasing frequency of incidents annually. During the first 7 years included in the study, an average of 6.4 incidents occurred annually. In the last 7 years of the study, that average increased to 16.4 incidents annually. This trend reinforces the need to remain vigilant regarding prevention efforts and for law enforcement to aggressively train to better respond to—and help communities recover from—active shooter incidents.

The findings also reflect the damage that can occur in a matter of minutes. In 63 incidents where the duration of the incident could be ascertained, 44 (70%) of 63 incidents ended in 5 minutes or less, with 23 ending in 2 minutes or less. Even when law enforcement was present or able to respond within minutes, civilians often had to make life and death decisions, and, therefore, should be engaged in training and discussions on decisions they may face.

As expected, therefore, many incidents ended before police arrived. Of the 160 incidents, at least 107 (66.9%) ended before police arrived and could engage the shooter, either because a citizen intervened, the shooter fled, or the shooter committed suicide or was killed by someone at the scene.

Tools of Cyber Attacks

Backdoor

This is used to describe a back way, hidden method, or other type of method of by passing normal security in order to obtain access to a secure area. It is also referred to as a trapdoor. Sometimes backdoors are surreptitiously planted on a network element; however, there are some cases where they are purposely installed on a system.

Denial of Service Attacks (DOS)

A DOS attack is designed to disrupt network service, typically by overwhelming the system with millions of requests every second causing the network to slow down or crash. An even more effective DOS is the distributed denial of service attack (DDOS). This involves the use of numerous computers flooding the target simultaneously. Not only does this overload the target with more requests, but having the DOS from multiple paths makes backtracking the attack extremely difficult, if not impossible. Many times worms are planted on computers to create zombies that allow the attacker to use these machines as unknowing participants in the attack. To highlight the impact of these type attacks, in February 2000, DOS attacks against Yahoo, CNN, eBay and other e-commerce sites were estimated to have caused over a billion dollars in losses. DOS attacks have also been directed against the military. In 1999, NATO computers were hit with DOS attacks by hactivists protesting the NATO bombing in Kosovo.

E-mail Spoofing

E-mail spoofing is a method of sending e-mail to a user that appears to have originated from one source when it actually was sent from another source. This method is often an attempt to trick the user into making a damaging statement or releasing sensitive information (such as passwords). For example, e-mail could be sent claiming to be from a person in authority requesting users to send them a copy of a password file or other sensitive information.

IP Address Spoofing

A method that creates Transmission Control Protocol/Internet Protocol (TCP/IP) packets using somebody else's IP address. Routers use the "destination IP" address to forward packets through the Internet, but ignore the "source IP" address. This method is often used in DDOS attacks in order to hide the true identity of the attacker.

Keylogger

A software program or hardware device that is used to monitor and log each of the keys a user types into a computer keyboard. The user who installed the program or hardware device can then view all keys typed in by that user. Because these programs and hardware devices monitor the actual keys being typed, a user can easily obtain passwords and other information the computer operator may not wish others to know.

Logic Bomb

A program routine that destroys data by reformatting the hard disk or randomly inserting garbage into data files. It may be brought into a computer by downloading a public-domain program that has been tampered with. Once it is executed, it does its damage immediately, whereas a virus keeps on destroying.

Physical Attacks

This involves the actual physical destruction of a computer system and/ or network. This includes destroying transport networks as well as the terminal equipment.

Sniffer
A program and/or device that monitors data traveling over a network. Although sniffers are used for legitimate network management functions, they also are used during cyber attacks for stealing information, including passwords, off a network. Once emplaced, they are very difficult to detect and can be inserted almost anywhere through different means.

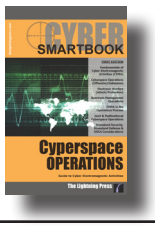
Trojan Horse
A program or utility that falsely appears to be a useful program or utility such as a screen saver. However, once installed performs a function in the background such as allowing other users to have access to your computer or sending information from your computer to other computers.

Viruses
A software program, script, or macro that has been designed to infect, destroy, modify, or cause other problems with a computer or software program. There are different types of viruses. Some of these are:

- **Boot Sector Virus:** Infects the first or first few sectors of a computer hard drive or diskette drive allowing the virus to activate as the drive or diskette boots.
- **Companion Virus:** Stores itself in a file that is named similar to another program file that is commonly executed. When that file is executed the virus will infect the computer and/or perform malicious steps such as deleting your computer hard disk drive.
- **Executable Virus:** Stores itself in an executable file and infects other files each time the file is run. The majority of all computer viruses are spread when a file is executed or opened.
- **Overwrite Virus:** Overwrites a file with its own code, helping spread the virus to other files and computers.
- **Polymorphic Virus:** Has the capability of changing its own code allowing the virus to have hundreds or thousands of different variants making it much more difficult to notice and/or detect.
- **Resident Virus:** Stores itself within memory allowing it to infect files instantaneously and does not require the user to run the “execute a file” to infect files.
- **Stealth Virus:** Hides its tracks after infecting the computer. Once the computer has been infected the virus can make modifications to allow the computer to appear that it has not lost any memory and or that the file size has not changed.

Worms
A destructive software program containing code capable of gaining access to computers or networks and once within the computer or network causing that computer or network harm by deleting, modifying, distributing, or otherwise manipulating the data.

Zombie
A computer or server that has been basically hijacked using some form of malicious software to help a hacker perform a Distributed Denial of Service attack (DDOS).



Refer to CYBER: The Cyberspace Operations SMARTbook (in development). U.S. armed forces operate in an increasingly network-based world. The proliferation of information technologies is changing the way humans interact with each other and their environment, including interactions during military operations. This broad and rapidly changing operational environment requires that today’s armed forces must operate in cyberspace and leverage an electromagnetic spectrum that is increasingly competitive, congested, and contested.

Chap 7

Recovering from a Disaster

Recovering from a disaster is usually a gradual process. Safety is a primary issue, as are mental and physical well-being. If assistance is available, knowing how to access it makes the process faster and less stressful. This section offers some general advice on steps to take after disaster strikes in order to begin getting your home, your community and your life back to normal.

YOU are the Help until Help Arrives

Life-threatening emergencies can happen fast. Emergency responders aren't always nearby. You may be able to save a life by taking simple actions immediately. You Are the Help Until Help Arrives. According to a recent National Academies of Science study, trauma is the leading cause of death for Americans under age 46. Life-threatening injuries require immediate action to prevent an injured person from dying. Those nearest to someone with life threatening injuries are best positioned to provide first care. Learn how you can help by taking time for yourself or by teaching your community life saving skills until help arrives.

Health & Safety Guidelines

Recovering from disaster is usually a gradual process. Safety is a primary issue, as are mental and physical well-being. If assistance is available, knowing how to access it makes the process faster and less stressful. Your first concern after a disaster is your family's health and safety:

Aiding the Injured

- Administer first aid and seek medical attention for any injured person.
- Check for injuries. Do not attempt to move seriously injured persons unless they are in immediate danger of death or further injury. If you must move an unconscious person, first stabilize the neck and back, then call for help immediately.
- If the victim is not breathing, carefully position the victim for artificial respiration, clear the airway and commence mouth-to-mouth resuscitation.
- Maintain body temperature with blankets. Be sure victim doesn't become overheated.
- Never try to feed liquids to an unconscious person.

Health

- Be aware of exhaustion. Don't try to do too much at once. Set priorities and pace yourself. Get enough rest.
- Drink plenty of clean water. Eat well.
- Wear sturdy work boots and gloves.
- Wash your hands thoroughly with soap and clean water often when working in debris.

Safety Issues

- Be aware of safety issues after a disaster.
- Be aware of new safety issues created by the disaster. Watch for washed out roads, contaminated buildings, contaminated water, gas leaks, broken glass, damaged electrical wiring and slippery floors.
- Inform local authorities about health and safety issues, including chemical spills, downed power lines, washed out roads, smoldering insulation and dead animals.

I. Glossary

Adjutant General (The): The highest-ranking military officer within a state's National Guard. This officer works directly for the governor of their respective state and often serves as or with the state's Director of Emergency Management.

Advisory: An advisory is issued when a hazardous weather or hydrologic event is occurring, imminent, or likely. Advisories are for less-serious conditions than warnings that cause significant inconvenience and, if caution is not exercised, could lead to situations that may threaten life or property.

Assistance: Monies or services made available to individuals and communities that have experienced losses due to disasters such as floods, hurricanes, earthquakes, drought, tornadoes, and riots. The federal government may provide grants to fund a number of forms of assistance: the full cost for the reconstruction of certain private, nonprofit facilities and owner-occupied private residential structures; loans to local governments to cover operating expenses; free temporary housing for up to 12 months; the installation of essential utilities; mortgage or rental payments to individuals for up to one year; and food stamps, legal services, and counseling services for low-income citizens. This may include specific funding for long-range community economic recovery programs in areas devastated by disasters.

Capability: The extent of someone's or something's ability; what someone or something can do.

Capacity: The maximum amount that something can contain, perform, or create.

CBRNE; Chemical, Biological, Radiological, Nuclear, and High-Yield Explosive: See WMD

Centers for Disease Control and Prevention (CDC): The CDC is one of the major operating components of the Department of Health and Human Services. They are responsible for coordinating the expertise, information, and tools that people and communities need to protect their health through health promotion; prevention of disease, injury, and disability; and preparedness for new health threats.

Choleric, Independent Planner: Serious and intuitive. Independent Planners are motivated to develop their own plans and willing to work within networks for information and materials.

COG; Continuity of Government: COG plans are *coordinated organizational efforts within branches of government* to ensure the eight National Essential Functions (which will be described in detail soon) are continuously protected, supported, and provided.

COOP; Continuity of Operation Plan: COOPs are *individual organizational efforts* within organizations, agencies, or departments *within a branch of government* and provide guidance, both specific and general, as to how the individual organizations, agencies, or departments are to ensure they can continue to perform their respective duties.

Department of Defense (DOD): The Department of Defense (DOD) is the executive department in the federal government that is responsible for providing the military forces needed to deter war and to protect the security of the United States. The major elements of the military forces under its control are the Army, Navy, Air Force, and Marine Corps. The DOD includes the Office of the Secretary of Defense, the military departments and the military services within those departments, the chair of the Joint Chiefs of Staff and the Joint Staff, the unified combatant commands, the DOD agencies, the DOD field activities, and such other offices, agencies, activities, and commands as may be established or designated by law, by the president, or by the secretary of defense.

Quick Reference

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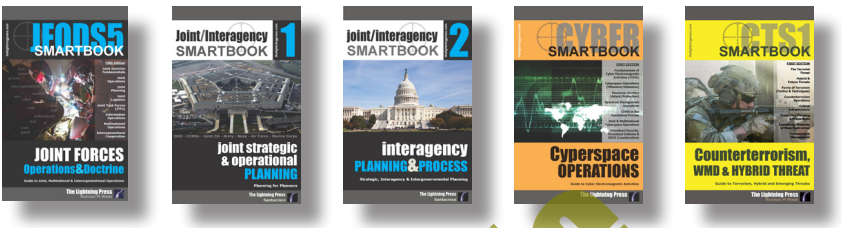

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3 Disaster Preparedness

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Personal, Community & Organizational Readiness

Disaster can strike anytime, anywhere. It takes many forms—a shurricane, an earthquake, a tornado, a flood, a fire, a hazardous spill, or an act of terrorism. In the past decade alone, natural disasters of considerable severity resulted in 699 Presidential Disaster Declarations, an average of nearly six per month.

Disaster management (or emergency management) is the term used to designate the efforts of communities or businesses to plan for and coordinate all the personnel and materials required to either mitigate the effects of, or recover from, natural or man-made disasters, or acts of terrorism.

Individuals can make a difference in their own community but not everyone has bought into preparedness. Research on **personal preparedness** indicates that individuals who believe they are prepared for disasters often are not as prepared as they think. In addition, some admit they do not plan at all.

Our nation's emergency managers, firefighters, law enforcement officers, EMT/paramedics, and other emergency responders do an incredible job of keeping us safe, but they cannot do it alone. We must all embrace our personal responsibility to be prepared -- in doing so, we contribute to the **safety and security of our communities** as well.

Planning and preparing can make a big difference in being safe and **keeping an organization operational** during and after a disaster. The ability to maintain or quickly reestablish operations or organization processes requires a focus on preparedness, advance planning, and relationships with external partners and community leaders.