



CHAPTER ONE

URBAN THREATS

It can be difficult to be prepared if you don't have some understanding of what you're preparing for. That's sort of like planning a trip without first choosing a final destination. Sure, you can have a great time just road tripping and seeing the sights, but you might just end up lost.

With that in mind, let us begin our journey into urban preparedness by discussing some of the common threats we face.

SEVERE WEATHER

No matter where you live or decide to move, Mother Nature will have at least one or two ways to make life interesting.

Winter Storms

Throughout the world, there are numerous regions that experience exceptionally cold temperatures and heavy snowfall during winter. Some of these areas measure single snowfalls in feet (meters) rather than inches (centimeters).

In February 2013, Winter Storm Nemo dumped more than two feet of snow on parts of New England and surrounding areas. With hurricane-force wind gusts, this was a very severe storm. Winter Storm Nemo is an example of the type of storm

commonly referred to as a nor'easter. Several hundreds of thousands of people lost power during the storm, and it took several days for power to be restored to all in the affected area, both residences as well as businesses. Roads quickly become treacherous and in some areas completely impassable. There were several fatalities reported, with many deaths attributed to travel accidents as well as exertion from people attempting to clear snow.

Fortunately, we typically have at least a little warning before storms like this hit. In fact, due to advances in meteorological science and related technology, forecasters can often predict these storms several days in advance. By paying attention to these forecasts, you should have plenty of time to top off your supplies and avoid the last minute rush at the stores.

Hurricanes and Tropical Storms

Hurricanes are extremely powerful storms with sustained winds in excess of 74 mph. In the western hemisphere they often originate in the Gulf of Mexico or off the Atlantic coastline. These storms are called typhoons when they occur in the Pacific or Indian oceans.

Hurricane Andrew hit Florida in August 1992, and was the costliest disaster ever to hit the state. Well over 700,000 homes were damaged or destroyed and more than one million people lost power. In the aftermath of the hurricane, there were widespread reports of looting from businesses, with news footage showing armed shop owners guarding their stores. Almost a dozen insurance companies went bankrupt due to the massive costs of reimbursing the insured residents.

Of course, no discussion of hurricanes would be complete without mentioning Hurricane Katrina. Even with all of the technology at our disposal and all the warnings that were repeated over and over to residents, more than 1,800 people lost their lives. Few would argue that mistakes were made by officials and civilians alike in the way the storm and the aftermath



Hurricane damage

were handled. While we'd hope lessons were learned and will be heeded in the future, the largest opportunity for learning might be that people need to rely on themselves first, rather than relying on government and/or private agencies that are likely to be overloaded with requests for assistance.

Hurricanes and tropical storms don't strike without warning. These storms are often observed and reported several days if not a week or more in advance of landfall. Acting on these reports early will give you ample time to make the proper preparations, such as securing your home and evacuating to a safer area.

Tsunamis

Tsunamis, or tidal waves, can strike any coastal area. The triggers for tsunamis include underwater earthquakes or volcanic eruptions as well as landslides. A tsunami is a series of massive waves. Unlike normal ocean waves, they don't "break" but instead appear as a rapidly rising tide. How rapidly? Go online and do some searching for news footage from the tsunami that hit Japan in 2011. It took just minutes for the wave to flood towns to such a degree that homes were almost completely underwater.

Weather Alerts

Severe weather rarely strikes without at least some advance warning. You might consider adding a weather app to your phone or at least investing in a battery-powered weather alert radio. Both of these technologies utilize information from the National Oceanic and Atmospheric Administration to alert you to potentially hazardous conditions. These are excellent resources to have available, particularly during power outages.

Flooding

Flooding can occur just about anywhere there is a body of water. In times of heavy rain, rivers can rise above the banks and spread into nearby towns and cities. After the rain stops, it can take days for the water to recede, leaving devastation behind. When it comes to traveling in flooded areas, even a mere 6 inches (15cm) of water can sweep you off your feet.

Tornadoes

Tornadoes are, unfortunately, a very common occurrence in the Midwest region of the United States, particularly in the area often referred to as “Tornado Alley,” which generally refers the area of northern Texas through Kansas and Oklahoma. While this designation is not official, it has become a recognized colloquial term. The costliest tornado in United States history hit Joplin, Missouri, in May 2011. It was rated as an EF5 tornado, the most severe rating on the Enhanced Fujita scale, with winds in excess of 200 mph (322 kmh). About 160 people were killed as a result of the tornado. Roughly 25 percent of the city was destroyed. Several thousand homes were flattened or otherwise severely damaged.

One of the problems with tornadoes is the lack of warning time before they strike. Often, there are mere minutes between the time when a tornado siren is sounded and when the actual funnel cloud hits the area. In May 2013, a tornado struck



Funnel cloud

Moore, Oklahoma, killing several people as well as causing massive damage. Residents there had less than fourteen minutes from the time the warning sounded until impact.

Heat Wave

In urban areas in particular, heat waves can be a severe problem. Excessively high temperatures that continue over a period of several days or weeks put a considerable strain on the electrical grid. Residents crank up their air conditioners in hopes of finding relief from the heat. Brownouts and rolling blackouts become common during heat waves. The heat also puts a strain on the human body, causing serious health threats to both the young and the old.

Adequate rest is a necessity of the human body. Heat waves often affect sleep patterns as it can be very difficult to be comfortable when the temperatures don't cool off appreciably at night. This lack of rest leads to feeling worn out and agitated, which in turn can result in an increase in violent acts among the city's populace.

Drought

Droughts are a result of a significant lack of precipitation over an extended period of time. While often thought of as being a warm weather threat, a drought can occur at any time of year and in any climate. A drought has both short-term and long-term impacts. Water usage may be restricted due to falling levels in natural water supplies. Food prices can rise as a result of crop failures.

In 2011, the southwestern region of the United States experienced the most severe drought since the 1930s Dust Bowl era. Coupled with the lack of precipitation was a massive heat wave, with temperatures rising into the triple digits for about forty consecutive days. Food prices escalated quickly and the number of wildfires increased. Lakes and rivers dried up and residents in some areas faced water restrictions.

Record high temperatures plus restrictions on water is not a great combination. This particular threat highlights the need for having a stockpile of stored water.

Wildfires

Every year, from spring through autumn, fires break out along the West Coast of the United States and are driven by strong Santa Ana or Diablo winds. These wildfires cause massive amounts of damage as well as threaten the lives of thousands of residents. Wildfires are often at least partially a result of drought conditions. While residents in these areas may be warned ahead of time when conditions are becoming ideal for wildfires, there are many causes for the fires themselves. A carelessly extinguished campfire or a lit cigarette tossed from a car may spark a fire that destroys thousands of acres and threatens hundreds of lives.

Part of the danger of wildfires stems from their speed. Depending upon the terrain, they can spread as quickly as 12 to 14 mph. The fire can even jump ahead of itself, with embers taken aloft by high winds and dropped into dry grass farther away.

Earthquakes

As the recent quakes in Japan and Haiti show, earthquakes strike without warning and can cause massive losses of life and property. Earthquakes happen along fault lines, which is where oceanic or continental plates meet. On January 17, 1994, an earthquake hit Northridge, California. The magnitude of the quake was officially measured at a magnitude of 6.7, with an extremely high ground acceleration being felt as far away as Reno, Nevada, some two hundred miles away. With a duration of only about ten to twenty seconds, this earthquake averaged about one billion dollars in damage per second. Almost sixty people were killed as a direct result of the earthquake and over eight thousand injured. Unfortunately, there is typically little to no warning before an earthquake occurs.

Volcanoes

Volcanoes are weak spots in the Earth's crust that allow gases and lava to rise to the surface. When they erupt, they can cause tremendous amounts of damage. On May 18, 1980, Mount St. Helens erupted violently, sending ash and smoke fifteen miles into the air. In the two months prior to the eruption, there were many signs of imminent disaster. Several earthquakes had begun fracturing the north face of the mountain, with the pressure from steam inside causing the face to bulge. Authorities closed the area to the public, which likely saved thousands of lives. As it was, though, fifty-seven people were killed as a result of the eruption and the total cost of the clean up was estimated at 1.1 billion dollars.

Underneath the famous Yellowstone National Park in Wyoming lies a supervolcano. When it last erupted approximately 640,000 years ago, scientists estimate roughly 240 cubic miles of ash, dirt, and debris was sent into the atmosphere. Many of these same scientists believe it is not a matter of *if* it will erupt again, but rather a matter of *when*.

ELECTRICAL GRID COLLAPSE

Power outages often accompany severe weather. In fact, electricity is usually the first thing to go when the weather turns violent. In many urban areas, the power grid is antiquated at best and as a result is somewhat fragile.

A typical outage lasts a day or so and isn't usually that much of a hardship, though inconvenient and frustrating. However, if the outage extends into a couple days or more, urban dwellers may see some significant issues begin to crop up. Many, if not most, urban residents rely on electricity for heat and cooking. Not to mention, the night can get pretty dark without electric lights. In urban areas in particular, this can lead to significant security concerns.

Solar Flares

Solar flares may sound like something out of science fiction, but they can have a very real effect here on earth. In September 1859, a powerful solar flare caused a geomagnetic solar storm.

This solar storm resulted in a spectacular light show across many parts of the planet. Typically, only those residing in northern regions of the world see aurorae; however, in this case the phenomena was seen as far south as Cuba and Hawaii. The bad news, though, was the event also caused major problems with electrical systems, as primitive as they were by today's standards. Telegraph systems in particular went haywire, in some cases delivering shocks to operators as well as starting fires. British astronomer Richard C. Carrington was among the first people to observe and report the solar storm, and it was named the Carrington Event in his honor. If such a flare or storm to hit today, it is theorized the impact could be catastrophic to the power grid.

Electromagnetic Pulse (EMP)

Another threat to the electrical grid is an electromagnetic pulse (EMP). Discovered during nuclear weapon testing in the 1940s,

an EMP is a result of nuclear detonation. Without getting into the complicated physics, an EMP is essentially a fast pulse of electromagnetic radiation that causes rapid changes in the electrical and magnetic fields in the affected area. The result is current and voltage surges that disable unprotected devices. In short, an EMP will basically overload the electrical grid in the area and ruin the items running on electricity as well.

Think of EMPs like this—let's say there was a huge on/off switch that controlled everything running on electricity. An EMP effectively turns that switch off, somewhat permanently.

Today there are devices that could be manufactured to produce an EMP without the nuclear explosion. While the risk of terrorists getting their hands on one might be remote, it is not impossible. Should an EMP be set off at the correct altitude over the central United States, it could effectively wipe out much of the power grid from coast to coast.

TERRORISM

On September 11, 2001, terrorists hijacked four airliners. Two of them crashed into the World Trade Center in New York City, one crashed into the Pentagon, and the final plane diverted from its intended target, Washington, D.C., and was forced to crash in Shanksville, Pennsylvania by passengers who fought against the terrorists on board. Almost three thousand people died as a result of these attacks. While much of the world had felt the effects of terrorism for decades, these attacks brought this threat to America's shores.

Terrorism works by spreading fear and chaos. The bombings at the Boston Marathon in April 2013 is a prime example of this. Three people were killed and 180 were injured in the blasts. The subsequent manhunt to find the bombers effectively shut down the city of Boston, with residents being told to remain at home and to lock their doors. While in most areas this was not a mandatory order, the majority of the residents followed instruc-



Wreckage caused by a terrorist attack

tions. The entire city was brought to a screeching halt. Residents were unable to get to work or even to an open grocery store to pick up a gallon of milk.

Terrorism isn't limited to violent, physical attacks. Cyberterrorism brings different threats, but is potentially no less deadly than bombings. For example, in 2009 it was reported that Chinese and Russian computer hackers had managed to break into various urban infrastructure computer programs and insert programming that could be activated at a later date. Had these hacks not been detected, they could have affected systems such as water, sewage, and power grids.

EPIDEMIC

Due to the close proximity in which people live and work in an urban area, disease can spread much more rapidly in cities than in rural areas. From 1918 to 1920, a particularly deadly form of influenza killed about 75 million people across the globe, infecting more than 500 million. In addition to those whose

health was directly affected, fears about exposure and infection caused communities to effectively shut down. Stores closed up and hospitals were well over capacity while trying to operate on skeleton crews. While medical breakthroughs coupled with improvements in public sanitation have had a positive impact on reducing the number of epidemics, disease remains a distinct threat. In 2009, a similar influenza outbreak occurred, killing more than 18,000 people worldwide. Part of the problem is how rapidly the flu virus can mutate, rendering the current vaccine all but useless. Even with our modern vaccinations, around forty thousand people in the United States die every year just from the common flu.

SUPPLY SHORTAGES

There are several different reasons why your grocery store may suddenly not have enough stock on hand to satisfy your needs. There are many links in the supply chain and a problem with any one of them can cause the chain to break. Truck drivers going on strike, weather issues, problems with the suppliers—any one of these events can result in shortages being observed on store shelves.

Once upon a time, stores had large stockrooms in back, where they stored goods to replenish the shelves as needed. However, about ten years ago or so, something called Just in Time (JIT) inventory systems began to rise in popularity. The idea is that by reducing the size of the stockrooms, stores can increase the actual selling space within the building. So, stores were remodeled and the stockrooms were drastically reduced. At the same time, computer programs were installed to keep much better track of the merchandise in the stores. These inventory programs track sales and automatically order from the warehouse enough widgets to fill the shelf every week. The merchandise comes off the truck and goes immediately out to the sales floor. It's a great concept that makes perfect business sense.



Store shelves wiped out

The wrench in the works, though, is when there is a sudden increase in sales, such as just before a major storm. It doesn't take long at all for the average grocery to run out of bread, milk, and other basic commodities. When that happens, it could be a couple days before the next shipment, provided the trucks aren't delayed by the very storm that caused the run in the first place.

CIVIL UNREST

Any time there is a large-scale disaster, quite often one of the end results is civil unrest in the cities. When small segments of the population perceive that established laws are unenforceable, chaos rears its ugly head. Looting, riots, and just general bad behavior become the rule rather than the exception.

Sometimes it isn't a catastrophe that causes the riots, rather the riot *is* the catastrophe. Case in point—Los Angeles, California, April 1992. After the acquittal of four officers accused of excessive force and assault against Rodney King, racially motivated riots broke out in several areas of L.A. It took several days for authorities to get things back under control. More than fifty people were killed and a couple thousand were injured. Close



Rioting

to one billion dollars in property damage was inflicted, mainly through looting and arson.

Wilding

Related to riots is a fairly new form of civil unrest called *wilding*. This is the term used to describe small bands of people, typically teenagers and young adults, who rampage through an area of a city, stealing from stores and physically assaulting anyone in their way. In 2011, the opening day of the Wisconsin State Fair in Milwaukee, Wisconsin, saw an example of this. Groups of youths, predominantly males, rampaged through the midway, breaking into fights with other groups and, after leaving the fairgrounds, assaulting other fairgoers in the area. Around the same time, though not that day, there were reports of convenience stores being robbed by groups of young adults who swarmed the stores en masse, grabbing what they wanted and just walking out the door.

SUMMARY

In discussing these various threats, the goal here is not to scare anyone. Rather, it is important to realize we live in an unpredict-

able world, where weather as well as man-made disasters can happen at a moment's notice. The following chapters will help you to create and execute a survival plan so you'll be better prepared for whatever life decides to throw your way.