Boulder OEM
3280 Airport Road, Boulder, Colorado 80301
boulderoem@bouldercounty.org
www.BoulderOEM.com
Tel: 303-441-3390 Fax: 303-441-3884

EMERGENCY PREPAREDNESS GUIDE

BOULDER OEM | A JOINT OFFICE OF BOULDER COUNTY AND THE CITY OF BOULDER

In an emergency DIAL 911

NON-EMERGENCY COMMUNICATIONS

Boulder County Sheriff's Office	303-441-4444
City of Boulder Police & Fire	303-441-3333
City of Longmont	303-651-8501
University of Colorado, Boulder	303-492-6666

LAW ENFORCEMENT AGENCIES

Boulder County Sheriff's Office Records Division & Information	303-441-3600
Boulder Police Department Records & Information	303-441-3300
Longmont Police Department	303-651-8555
Lafayette Police Department	303-665-5571
Louisville Police Department	303-665-6531
Erie Police Department	303-926-2800
Nederland Police Department	303-258-3250

FIRE DEPARTMENTS/DISTRICTS

Allenspark Fire Protection District	303-747-2586
Berthoud Fire Protection District	970-667-3122
Big Elk Meadows Fire Protection District	303-823-5717
Boulder Mountain Fire Protection District – Pinebrook Hills Station	303-440-0235
Boulder Rural Fire Protection District	303-530-9575
City of Boulder Fire Department	303-441-3350
Coal Creek Fire Protection District	303-642-3121
Four Mile Fire Department	303-442-4271
Gold Hill Fire Protection District	303-441-4444
Hygiene Fire Protection District	303-776-2950
Indian Peaks Fire Protection District	303-441-4444
Jamestown Volunteer Fire Department	303-447-1568
Lafayette Fire Department	303-665-9661
Lefthand Fire Protection District	303-441-4444
Longmont Fire Department	303-651-8424
Louisville Fire Protection District	303-666-6595
Lyons Fire Protection Distric	303-823-6611
Mountain View Fire Protection District	303-772-0710
Nederland Fire Protection District	303-258-9161
Pinewood Springs Fire Protection District	303-823-5086
Rocky Mountain Fire Protection District	303-494-3735
Sugarloaf Fire Protection District	303-442-1050
Sunshine Fire Protection District	303-441-4444
Timberline Fire Protection District Call Gilpin County Dispatch	303-582-5511

Table of Contents

INTRODUCTION
Messages to Residents 6
What is Emergency Management 7
Why Prepare For A Disaster? 6

GENERAL PREPAREDNESS INFORMATION
Emergency Alerts & Warning Systems 6
About 911 9
Emergency Planning 10
Unique Needs Preparedness 12
Making an Emergency Kit 14
Private-Sector Preparedness 18
Recovering From a Disaster 19

NATURAL HAZARDS
Flood 20
Wildfire 22
Tornadoes 26
High Winds 26
Lightning 27
Severe Thunderstorms 27
Landslides 28
Winter Storms & Extreme Cold 28
Extreme Heat 30
Drought 32
Pandemic Influenza 32

MAN-MADE & TECHNOLOGICAL HAZARDS
Hazardous Materials Incidents 34
Terrorist Hazards 36

FOR MORE INFORMATION
Family Communication Plan 42

Messages to Residents

Message from Boulder County Sheriff's Office:

Dear Residents,

We live and work in one of the most beautiful settings in Colorado, and much of that natural beauty also makes us highly prone to potentially catastrophic events such as wildfire, blizzards, and flash flooding. These are not just possibilities, but have occurred in the past and will occur here in the future. For several decades various local public agencies have worked together here collaboratively to plan for these events and a coordinated response. Boulder County residents should be assured that when there is a major emergency, all of our various public safety agencies pull together and support one another regardless of jurisdictional boundaries. Our county has long been a leader in the practice of emergency management, and the shared City of Boulder and Boulder County Office of Emergency Management is a top- notch planning entity.

The Sheriff's Office plays an important role in coordinating with local, state, and federal agencies to ensure the ability of our county to respond to, and recover from a disaster. We have many specialized units who respond, and we also house the county's Emergency Operations Center, (which becomes the hub of coordination and com- munication during a disaster). We prepare and train every year on a wide variety of "all-hazards" events, and pull together leaders from every level of government in both exercises and actual events.

However, despite all of our best efforts, there is only so much local government can do on its own. Events such as a wind-driven wildfire or a flash flood in a canyon are all rapidly developing, swiftly moving, and highly devas- tating. First responders likely will not be able to reach everyone for rescue or evacuation, and moving people in some instances may be more dangerous than sheltering in place. For these reasons we need to depend on a partnership with an informed and prepared public to survive and recover from a major disaster. We need you to be able to react properly to assure the protection of lives during a disaster.

We hope that this guide will help you to feel prepared and informed to respond properly in a disaster situation, and to give you confidence that your local government is working hard to be prepared as well. There is nothing we can do about the weather, climate, or terrain we live in (ex- cept enjoy it!), but together we can survive and recover from a disaster with proper planning and preparation.

Boulder County Sheriff

The Sheriff provides law enforcement in rural areas and small towns, manages the county jail, serves as an officer of the court, runs the county 911 communication center, provides emergency management and coordination for major events, (man-made and natural), transports and extradites prisoners and handles a variety of other statutory responsibilities.

Message from Boulder Fire-Rescue Department:

Dear Residents,

Effective disaster response is a collective effort. It begins with actions taken by each individual before disaster strikes. This guide provides information to help you survive a disaster.

Let me assure you that the Boulder Fire Department is committed to providing an effective disaster response, but we are limited in what we can do. No local agency or combination of agencies has the resources necessary to rescue every potential victim in a disaster. You are your first and best line of defense. You can take charge of your safety. Emergency preparedness is everyone's responsibility.

This guide provides important information regarding emergency preparedness. As Fire Chief, I urge you to take the time to review the material in this guide and put together a plan to allow you and your loved ones to remain safe during a disaster. A rescue avoided through proper planning is always better than a rescue properly executed in the field. An informed and prepared community makes everyone safer and more secure. It allows emergency responders to devote time and effort to those people truly unable to help themselves.

Preparedness and individual planning have repeatedly proven to be effective in times of disaster. Please take the time to review the material and help us help you in the event the unthinkable happens. Together we can make a difference before disaster strikes.

Boulder Fire-Rescue

The Boulder Fire-Rescue Department (BFRD) strives to make Boulder a safe place to live, work and play. BFRD reduces the human suffering caused by fires, accidents, sudden illnesses, hazardous material releases and other disasters.

Message from Boulder Police Department:

Dear Residents,

It's a natural human tendency to avoid thinking about possible disasters in our own community, never mind planning for them. As Chief of Police, however, I have been involved in enough emergency situations to know how important preparedness can be. The information in this valuable guide could help keep you and your family safe.

The Boulder Police Department does all it can on a daily basis to respond professionally and as promptly as possible when we are needed. We also ensure that our officers are trained in a variety of high-hazard situations. Nonetheless, we are realistic: In a large-scale emergency, there may be unavoidable delays in our ability to reach you. Taking the time to think about how your family will assemble and respond to emergencies, as well as stock- ing up on the supplies that will see you through the initial 72 hours, could make a tremendous difference in your survival.

It is not our intention to scare you. Instead, we hope this guide will empower you, so that you feel informed and better prepared for whatever comes our way. Emergency preparedness is a responsibility we all share, and we are pleased to partner with you in this effort.

City of Boulder Police Department

Working with the community to provide service and safety. The Boulder Police Department (BPD) is responsible for general public safety, prevention of crime, responding to and investigating crime, apprehension of those who commit crime, public order, traffic safety, criminal justice records and safety education.

Our Mission

The mission of the Boulder Office of Emergency Management is to develop, coordinate and lead a comprehensive emergency management program. We seek to enable effective preparation for, efficient response to, and effective recovery from emergencies and disasters, in order to save lives, reduce human suffering, protect resources and develop a more resilient community.

What is Emergency Management?

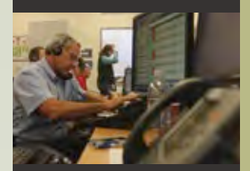
Emergency Management is the function that plans, coordinates and supports a wide range of activities that help communities to reduce vulnerability to hazards, prepare for and cope with disasters. This work is generally thought of in four phases: mitigation, preparedness, response and recovery. Mitigation consists of those activities designed to prevent or reduce losses from disaster. Preparedness is focused on the development of plans and capabilities for effective disaster response. Response is the immediate reaction to a disaster. Recovery includes activities that help to restore critical community functions and manage reconstruction.

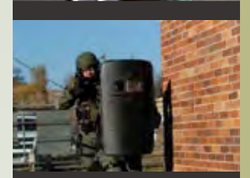
The Boulder Office of Emergency Management has emergency management responsibilities for both the City of Boulder and Boulder County. In addition, Boulder OEM coordinates with state and federal partners, many city and county departments, public safety agencies, municipalities, non-governmental organizations and private businesses throughout Boulder County in order to facilitate coordinated planning and response to emergency situations.

The most effective emergency management program, however, requires even more than that. The best response includes a prepared and responsive public. Your ability to respond appropriately in an emergency situation is critical to our success and your resilience.

In recent years, we have experienced fires, droughts, winter blizzards and even tornadoes. In addition, the community of Boulder has the greatest flash flood risk in the state of Colorado. This emergency preparedness guide contains practical information to help your family prepare for most disasters that could occur in Boulder County. We know that disaster preparedness works. We hope this guide will encourage you to take action and be prepared in the event of an emergency.

The Boulder Office of Emergency Management Team





Why Prepare for a Disaster?

For most people, disasters and emergencies are not a part of everyday life, so when something happens, they are often taken by surprise. The reality is that disasters happen every day. Each disaster can have lasting effects – serious injuries, property damage, loss of essential services and disruption of community and business activities to name a few.

Disaster response is a partnership between first responders, local, state and federal governments, disaster-relief organizations and you! Taking the time to understand how a disaster may affect you, and then taking steps now to protect yourself can help minimize the negative effects of a disaster and help you recover more quickly.

In a disaster situation, local responders may not be able to reach you immediately. You should be ready to be self-sufficient for at least three days. Your preparedness may allow you to help others during a disaster and will most certainly allow the first responders in your area to take care of those in the most immediate life-threatening situations. Being prepared and knowing what to do will reduce fear and anxiety and may help you to avoid the danger altogether.

Having a pre-developed emergency plan, developing an emergency kit and understanding how to stay informed is essential to your survival and comfort.

Photo Credit: FEMA/ Zachary Kittrie

Sign-up at www.boco911alert.com to receive messages about imminent threats and hazards!

Emergency Alerts & Warning Systems

Emergency Notification System (ENS)

This system allows residents of the county and all cities within the county to be notified of an emergency situation in a variety of ways, including on their cell phone, home and work phone and by text message and email.

How it works:

- *A brief message is recorded by the agency that answers 911 calls in your area.*
- *The system allows the agency to select who is called by defining an area on a map or by inputting a range of addresses.*
- *The message is then 'launched.' The system automatically calls each landline number in the selected area, playing the recorded message when the phone is answered.*
- *The system also calls other phone numbers, sends text messages, and sends emails to individuals who have "opted in" to the system for additional notification.*
- *If the phone is busy, the system will try again. If an answering machine is encountered, the system will attempt to leave a message.*
- *If a TDD signal is encountered, the system will leave a TDD message.*

When you receive an emergency alert call:

Listen carefully to the information in the recorded message. It will contain:

- *The name of the agency that recorded the message.*
- *Details as to the nature of the impending danger.*
- *What action you need to take.*

You may repeat the message by following the system prompts. Do not hang up in the middle of the message; the entire message must be left for the system to show it was received.

If you have signed up to be notified in multiple ways (work phone, cell phone, and text message, for example) the system will stop trying to reach you once you acknowledge that you have received the message in one of these ways.

You need to know:

If you have a telephone device used to block telemarketers, or your phone is blocked to unknown callers, you will not receive the ENS message.

The system is free to anyone who lives within Boulder County, including any of the cities or municipalities in the county. Participants are responsible for any fees charged by their provider for text messaging.

When calling your landline phone, the ENS system generates your phone number to the local public safety agency. If you opt-in to the system for additional notifications, the information you provide will only be used for emergency purposes. It will never be shared with any other organization or used for any other purpose. Your privacy is protected.

You do not need to sign up or update information for landline telephones at your home, if your landline is with a company that reports your number for 911 services. Some cable and VoIP providers do not subscribe to the 911 database. To know for certain, inquire with your phone company.

Flood Warning And Detection System

A flood forecasting system was implemented after the Big Thompson Flood in 1976. Rain gauges were placed in the drainages emptying into the City of Boulder and throughout Boulder County, west of Highway 36 and below 9000 feet. These gauges are monitored on a 24/7 basis from April through mid-September, peak season for flooding.

Outdoor warning sirens may not be heard inside buildings. They are primarily intended to warn persons in outdoor areas.

Outdoor Warning Sirens

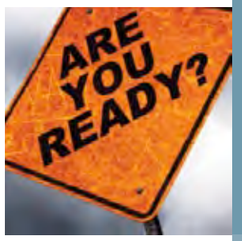
Sirens are an effective way to warn people who are outdoors and in an immediate threat to safety. When you hear a siren, you should:

- *Visit www.boulderoem.com for the latest emergency information.*
- *Tune in Boulder Municipal Cable Channel 8 (for those with cable TV in Boulder).*
- *Tune in to radio stations KOA 850 AM, KBCO 1190 AM or 97.3 FM.*
- *Turn on local television news channels (2, 4, 7, 9 or 31) Listen for a voice message if you are near a voice activated siren.*
- *Refrain from calling 911 unless you are experiencing an emergency.*

More than 30 outdoor warning sirens are in place across Boulder County. The sirens are located in Boulder, Longmont, Lafayette, Lyons, Eldorado Springs, Jamestown, Superior, Erie and the University of Colorado at Boulder. The sirens will broadcast a voice message immediately following the siren signal to inform the public of the situation and what actions should be taken.

When a flood, tornado or other disaster occurs, the sirens will sound. The sound and length of the signal may vary, depending on the situation. Listen for voice commands and tune to a local radio or TV station for further information. (Note: Longmont's sirens do not include voice commands.)

The outdoor warning sirens are sounded only in the event of an emergency or during pre-announced tests. The sirens are activated through the Boulder County Sheriff's Communications, Boulder Police and Fire Communications and Longmont Police and Fire Communication centers.



Siren Tests

Sirens are tested regularly on the first Monday of each month from April through August. The two-minute tests are done at 10 a.m. and 7 p.m. The purpose of the two tests is to familiarize people who work and live in different places with the sirens. Additionally, it is important to make sure the sirens work property and to educate the public about what action to take when they hear the sirens.

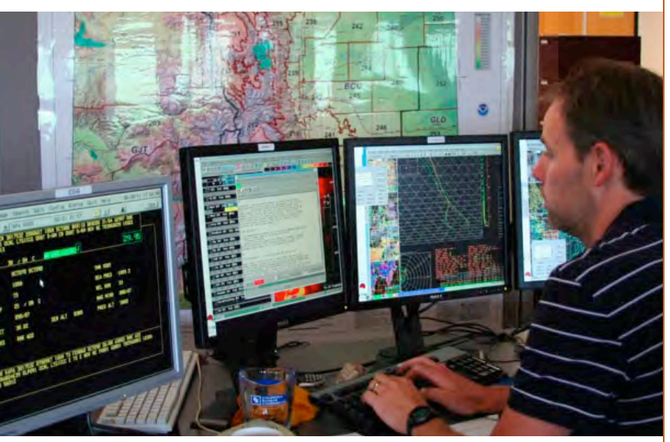
NOTE: It is estimated that about 50 percent of the public can hear a siren on a still day in the city of Boulder. During heavy rains or stormy weather, the percentage of people who hear a warning siren is greatly reduced because of the noise associated with the storm, and because more people are indoors.

For more information, and to program your weather radio, go to www.weather.gov/nwr/

Emergency Alerts & Warning Systems (cont.)

Emergency Alert System (EAS)

Formerly called the Emergency Broadcast System, EAS transmits national, state and local emergency warning information over television and radio stations. It is designed to automatically break into regular programming to provide guidance to your specific viewing area.



The NWS Weather Forecast Office (WFO) in the Denver/Boulder region provides weather forecasts and warning to 2.5 million citizens in 22 counties in northeast and north central Colorado.

NOAA Weather Radio (NWR)

NWR is a nationwide network of radio stations that broadcast continuous weather information directly from the nearest National Weather Service (NWS) office. NWR broadcasts official Weather Service warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week.

NWR also works with the Federal Communication Commission's EAS to be an "all-hazards" radio network, making it a single source for emergency information. In conjunction with Federal, State and local public safety officials and emergency managers, NWR can broadcast warning and post-event information about all types of hazards – natural (such as winter storms or flash flood), environmental (such as a chemical spill), or public safety (such as an AMBER alert).

NOAA Weather radios are available at many retail outlets, including electronics, department, and sporting goods stores, as well as many grocery stores. They can also be purchased via the Internet from online retailers or directly from manufacturers. They are available with many different features, and can cost anywhere from $20 to $200. A few of the more useful features include:

- ***Tone alarm:*** *The alarm tone will activate for watch and warning messages even if the receiver is turned off.*
- ***SAME technology:*** *Specific Alert Message Encoding allows you to specify the area for which you would like to receive alerts. Without this feature, you may hear watches and warnings for several counties. With this feature, you will hear messages only about the areas you have selected.*
- ***Battery backup:*** *This feature is useful since power outages often accompany severe weather. It is recommended that you use the AC power under normal conditions, however, in order to preserve battery life.*

Wireless Emergency Alerts (WEA)

WEA is a public safety system that allows customers who own certain wireless phone models and other enabled mobile devices to receive geographically-targeted, text-like messages alerting them of imminent threats to safety in their area. The technology ensures that emergency alerts will not get stuck in highly congested areas, which can happen with standard mobile voice and texting services. WEA enables government officials to target emergency alerts to specific geographic areas through cell towers for reception by WEA-enabled mobile devices.

About 911

Every Time You Call:

Immediately provide:

- *Name*
- *Current location (detailed address)*
- *Phone number*
- *Nature of the emergency*

Stay calm, listen carefully and follow the instructions the call-taker provides.

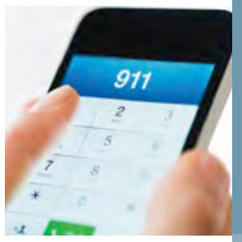
Depending on the nature of the emergency, the call-taker may ask you to stay on the line until help arrives, as long as it is safe to do so.

When Calling From a Landline:

- *The call routes to the Public Safety Answering Point (PSAP) that serves your area. This may be the sheriff's department, police department, fire department or other agency, depending on the location of the telephone line.*
- *The 911 call-taker answers your call and looks at a display on their computer screen that gives information regarding the location of your phone and the company that provides your phone service.*
- *During the course of the call, if it is determined that the information displayed in the 911 system is incorrect, the call-taker will submit a discrepancy report to the phone company so they can correct the information.*

When Calling From a Cellular Phone:

- *The call routes to the PSAP from the cell tower that your phone calls through. It may or may not be the cell tower closest to your location.*
- *Depending on the technology used by your cell phone, the call taker may also see your latitude and longitude coordinates indicating the approximate location of your phone. These coordinates may not be close enough to your actual location for emergency services personnel to find you quickly.*
- *Be aware of your surroundings when you're away from home so that you can provide an accurate location to the call-taker.*



TIP – Lock Your Keypad!

Everyday numerous calls are received by emergency dispatchers from accidentally activated cellular phones. Lock the keypad on your cellular phone and help keep the 911 lines open for real emergencies.

Practice your plan with your family regularly. Take the time to practice evacuating your home, and talk about "what if" scenarios with members of your household. Studies show that people who have thought about and practiced their emergency plans are much more likely to survive, and recover more quickly from disasters.

Emergency Planning

Developing an emergency plan is an effective way to assure that everyone that you care for knows how to respond in the event of an emergency. Learn about the natural hazards and risks in your area, talk to members of your household about what to do in each case and how you will stay in contact should regular forms of communication be unavailable. Things to consider when developing an emergency plan:

- *Communicating with family and friends*
- *Evacuating the hazardous area*
- *Sheltering-in-place should outside conditions be dangerous*

Communications Plan

Plan how household members will stay in contact if separated. This can be accomplished by identifying at least two meeting places:

- *Near your home*
- *Away from your neighborhood in case you can't return home*

Choose an out-of-town friend or relative as a single point of contact, and make sure each member of your household knows how to reach this person (a wallet-sized contact list for everyone to carry can be useful) by phone and by email. Calls out will not overload phone lines, as will calls coming into a disaster area.

Evacuation Plan

When community evacuations are deemed necessary, local officials may notify you using one or more of the following: the Emergency Notification System, National Weather Radio network, outdoor warning sirens and the Emergency Alert System. Local media may also provide valuable information regarding the evacuation process.

The amount of time you have to evacuate will depend on the nature of the disaster, so be prepared to leave at a moment's notice. You should have enough supplies on-hand should you have to leave with limited warning.

Planning for Evacuations:

- *Assemble a Go-Kit. A list of recommended items is located in the "Make a Kit" section of this resource book (See page 14.)*
- *Determine where you will go if you must evacuate and communicate the location with everyone in your household.*
- *Map multiple evacuation routes. During certain types of emergencies, some roads might be impassable.*
- *Make arrangements ahead of time with relatives and friends you may be able to stay with during an evacuation.*
- *In some instances, mass care shelters may be opened to provide sheltering to individuals who have been temporarily displaced from their homes. Pay attention to local authorities and news media to see if such a shelter is available. If you have other options for shelter available to you, make use of them instead of a mass care shelter.*

Shelter-In-Place Plan:

There may be times when you are instructed to "shelter- in-place." The actions you take will differ depending on the situation. When making your family emergency plan, discuss which rooms in your home will be your "safe rooms" for each type of disaster. Different scenarios will require different locations to shelter-in-place. For example, during a tornado warning, you should go to a basement or an interior room on the lowest floor. During a hazardous materials spill or chemical event, you should go to an above ground room, since many chemicals are heavier than air. In all shelter-in-place scenario's, listen to instructions provided by local authorities if they are available. When instructed to shelter-in-place:

- *Close all doors and windows.*
- *Turn off ventilation systems (heating and air conditioning) and close fireplace dampers.*
- *Take your disaster supplies and a radio with you. Go to a room with the fewest doors and windows and seal the room. Cut plastic sheeting to fit over windows and vents ahead of time, then secure it with duct tape.*
- *Place a damp towel at the base of the door.*
- *Stay in the room and listen for news on the radio or television. Do not come out until you are told it is safe, or you are told by authorities to evacuate.*
- *Consider keeping some basic disaster supplies (flashlight, radio, water and food) in each of the safe rooms in your home. Or, you might plan to take your "go" kit with you to your safe room.*

Shutting off utilities in an emergency

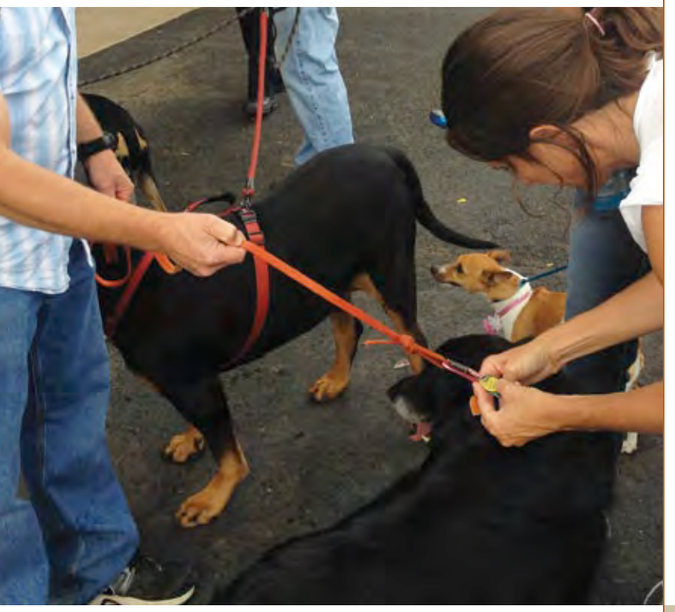
It is recommended that you locate the central circuit breaker box as well as the main water and natural gas valves at your home. Responsible family members should learn how and when to turn off these utilities.

You may also want to locate or purchase the right tools for turning off utilities, and keep them nearby so they will be available when they are needed.

Remember to turn off utilities only when you suspect the lines are damaged (for example you hear a hissing sound or smell natural gas) or if you are instructed to do so by authorities. If you turn off the natural gas, you will need a professional to turn it back on.

Consult with your local utilities if you have questions. Their phone numbers can usually be found on your monthly bill.

Unique Needs Preparedness



Disaster disrupts everything in its path, including pets, livestock and wildlife. Below are some general guide- lines for handling pets, large animals and wildlife in a disaster. Your pets depend on you for their safety and wellbeing, so include them in your family emergency plan.

If you see an injured or stranded wild animal, do not approach or attempt to help. Call your local animal control or the Colorado Division of Wildlife.

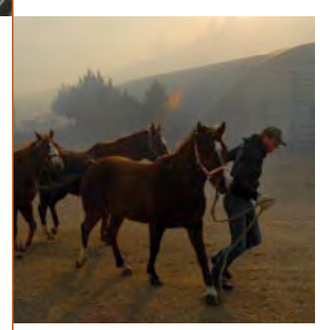
Animal Preparedness

Consider the following:

- *If you must evacuate, try to take pets with you. They may not survive, or they may get lost before you can return.*
- *Remember that except for service animals, pets are not permitted in emergency shelters, in most cases.*
- *Before a disaster, find out which local hotels and motels allow pets, and where local pet boarding facilities are located.*
- *Keep your pets' vaccinations current. Most veterinarian and boarding facilities require proof of vaccinations to admit your pet.*
- *Be sure your pet has identification tags securely fastened to the collar, and keep a pet carrier and leash to secure your pet.*
- *Assemble a disaster kit for your pet. Include food, water, medication, veterinary records, litter box, can opener and an information sheet with your pet's name and any behavior patterns or issues.*

Large animals may present unique challenges during an emergency. Consider the following:

- *Determine if you have adequate trailer room for all of your animals, and make a plan to get all of them loaded into a trailer safely.*
- *Predetermine evacuation destination, and make sure that that facility has, or is able to obtain, food, water, veterinary care and handling equipment.*
- *Be sure to have enough halters or other necessary items for each of your animals.*
- *Identify where to take your animal in a disaster situation. In some counties, the local fairgrounds are used, but remember that room and resources can be limited. If you have the ability to make other arrangements in advance, do so.*
- *All animals should have some form of identification.*



- *In case evacuation is not possible, animal owners must decide whether to move large animals to shelter or turn them outside. The decision will be based on the type of disaster, the type and location of available shelter, and the risks associated with turning them outside.*

School Safety Resources:
www.safeschools.info
www.redcross.org
www.schoolcounselor.org

School & Childcare Safety

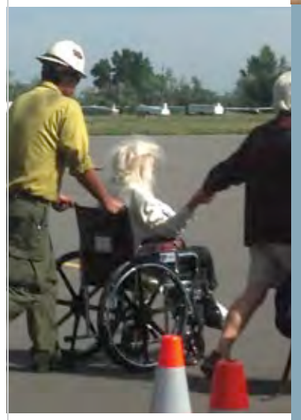
Parents have a responsibility to be proactive and ask school officials about their emergency plans and procedures. Find out specifically what your school plans to do in a lock-down, evacuation or shelter-in-place.

It is also important to help children feel safe and empower them to know what to do, both in school and going to and from school. If children walk to and from school, teach them a safe route, and where they can seek help along the way.

Vulnerable Populations

People with special needs may have to take additional steps to protect themselves and their households. If you have family members, friends or neighbors with special needs, you can help them with these additional precautions.
Examples include:

- *Individuals that are deaf and hard of hearing may need to make special arrangements to receive warnings about impending disasters.*
- *Mobility impaired persons may need assistance in getting to a shelter or may need help evacuating their homes.*
- *Households with working parents may need assistance with their children during an emergency.*
- *Non-English speaking people may need assistance planning for and responding to emergencies. Community and cultural groups may be able to help these populations be prepared and informed.*
- *People who do not drive or have a vehicle may need to make arrangements for transportation.*
- *People with special dietary needs should have an adequate emergency food supply.*



Mobility issues increases the time that you need to evacuate. In the event of an emergency watch or warning, plan on evacuating early to a friend or family members home.

Additional resources:

www.redcross.org

www.ready.gov

www.disabilitypreparedness.gov

Making an Emergency Kit

Assemble disaster supplies for sheltering-in-place and in case of evacuation. Your emergency supplies should be individually tailored to meet the basic survival needs of your family for three days to a week. Many families store their shelter-in-place supplies in one location in the home, such as a 32-gallon trash can (can be portable if it has wheels), a footlocker or a cabinet. Others pack individual backpacks that can be easily carried if evacuation is necessary. Suggested emergency supplies include:

Emergency Needs

- [ ] *Battery powered radio and/or NOAA weather radio*
- [ ] *First aid kit & manual*
- [ ] *Sleeping bags & blankets (wool & thermal)*
- [ ] *Manual ban opener*
- [ ] *Waterproof/Windproof matches*
- [ ] *Non-Perishable foods*
- [ ] *Flashlight*
- [ ] *Water storage (1 gallon per person per day)*
- [ ] *Water purification tablets*
- [ ] *Utility knife*
- [ ] *Emergency battery-operated lights or light sticks*
- [ ] *Extra eyeglasses/contact lenses*
- [ ] *Essential medications*
- [ ] *Extra clothing*

Suggested Non-Perishable Food Items

- [ ] *Ready-to-eat goods in unbreakable containers*
- [ ] *Canned or 'stay fresh pouch' meats*
- [ ] *Juice*
- [ ] *Dehydrated fruits & vegetables*
- [ ] *Powdered milk*
- [ ] *Infant care foods*
- [ ] *Crackers*
- [ ] *Peanut butter*

Photo Credit: FEMA /Patsy Lynch

Standard First Aid Kit

- [ ] *First aid manual*
- [ ] *Aspirin or pain relievers*
- [ ] *Laxatives*
- [ ] *Rubbing alcohol*
- [ ] *Diarrhea medicine*
- [ ] *Petroleum jelly*
- [ ] *Soap*
- [ ] *Salt*
- [ ] *Band-Aids & gauze*
- [ ] *Triangular bandage (36"x36"x52")*
- [ ] *Elastic bandage*
- [ ] *Cotton balls/Cotton swabs*
- [ ] *Safety pins*
- [ ] *Scissors*
- [ ] *Thermometer*
- [ ] *Sanitary napkins (pressure dressing)*
- [ ] *Disposable diapers (dressing/ splint/padding)*
- [ ] *Microspore adhesive, paper tape*
- [ ] *Matches*
- [ ] *Needles*
- [ ] *Tweezers*
- [ ] *Small splints, popsicle sticks*
- [ ] *Heavy string*
- [ ] *Syrup of Ipecac*
- [ ] *Individual medical needs*
- [ ] *Baking soda (a solution of 1/2 tsp. Baking soda + 1 tsp. salt + 1 qt. water may be given to a fully conscious shock victim)*

Preparedness Test

Test your ability to quickly evacuate with all of the supplies that you may need for 3-5 days.

1. Set a timer for 10 minutes.
2. Locate your go-kit or find a bag to gather supplies.
3. Begin gathering the supplies that you need if you had to evacuate.
4. Once the 10 minutes has elapsed, cross-reference the items in your kit with the items listed in this guide. Keeping a list of items that you may need if an evacuation were to occur will help assure that those items necessary to survival and valuable to you will be taken.

Sanitation Kit

- [ ] *Plastic bucket w/tightly fitted lid*
- [ ] *Plastic bags & ties*
- [ ] *Disinfectant*
- [ ] *Improvised toilet seat*
- [ ] *Paper cups & plates*
- [ ] *Personal toiletries*
- [ ] *Baby supplies*
- [ ] *Aluminum foil*
- [ ] *Paper towels*
- [ ] *Personal hygienic needs*
- [ ] *Plastic utensils*
- [ ] *Soap*

Making an Emergency Kit (Cont.)

Other Emergency Needs

- [ ] *Pen & paper*
- [ ] *Cash*
- [ ] *Important address' & phone numbers*
- [ ] *Work gloves*
- [ ] *Basic tools*

Make Copies of All Legal Papers

- [ ] *Marriage license*
- [ ] *House mortgage*
- [ ] *Vacation home / Property ownership*
- [ ] *Automotive ownership*
- [ ] *Motor home ownership*
- [ ] *Wills*
- [ ] *Jewelry appraisals*
- [ ] *Drivers licenses*
- [ ] *Trailers, snowmobiles, boat ownerships*
- [ ] *Insurance policies*
- [ ] *Bank accounts*

Car Survival Kit

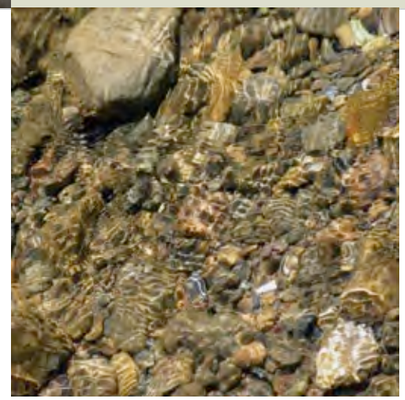
- [ ] *Always maintain at least 1/2 tank of gas*
- [ ] *First aid kit & manual*
- [ ] *Class ABC fire extinguisher*
- [ ] *Radio & batteries*
- [ ] *Non-Perishable food stored in coffee can*
- [ ] *Bottled water*
- [ ] *Bag of sand, shovel & tools*
- [ ] *Blankets or sleeping bags*
- [ ] *Map*
- [ ] *Moistened towels*
- [ ] *Plastic bags*
- [ ] *Essential medications*
- [ ] *Flashlights & extra batteries*
- [ ] *Reflectors & flares*
- [ ] *Jumper cables*
- [ ] *Short rubber hose for siphoning*

Pet Supplies

When assembling emergency supplies for the household, include items for pets.

- [ ] *Extra food (Store the food in sturdy containers)*
- [ ] *Kitty litter*
- [ ] *Large capacity self-feeder and water dispenser*
- [ ] *Extra medications*

Photo Credit: FEMA/Carolyn Deming



Emergency Outdoor Water Sources

If you need to find water outside your home, you can use these sources:

- *Rainwater*
- *Streams, rivers & other moving bodies of water*
- *Ponds & lakes*
- *Natural springs*

Be sure to purify the water by:

- *Boiling for at least 10 minutes*
- *Disinfection with plain household chlorine bleach (add 10-20 drops per gallon of water, stir and let stand 30 minutes).*
- *Distillation (boil a pot of water and collect the vapor by tying a cup to the upside down pot lid - the cup shouldn't dangle in the water. The cup will catch the water as it condenses).*

How to Store Water

Store your water in thoroughly washed plastic, glass, fiberglass or enamel-lined metal containers. Never use a container that has held toxic substances.

High Density Polyethylene (HDPE) is a good plastic material for containing water.

Private-Sector Preparedness

Disasters can be devastating to businesses. Short- term losses may include physical damage and revenue lost due to interrupted service, and loss of wages for employees. Long-term impacts can include the closure of the business and loss of jobs in a weakened local economy.

Business Continuity planning, also known as Continuity of Operations Planning or COOP, focuses on how quickly your business could become functional after a disaster. Having a COOP plan dramatically increases the odds your business will recover. Every business, no matter what size should have a plan.

Business Disaster Planning

While the complexity may increase with the size of the business, the steps in planning are the same.

1. **Assess Risks** – review this guide and local emergency plans to learn what hazards are most likely to affect your company.
2. **Make a plan** – identify essential staff, resources, procedures, records and equipment you will need to keep your business operating in an emergency.
3. **Include employees in your planning** – they are your most important assets.
4. **Purchase or assemble an "office kit"** of personal disaster supplies.
5. **Plan ahead** for shelter-in-place and evacuation procedures.
6. **Practice your plan** through regular drills, especially fire drills. Fire is the most common workplace emergency.
7. **Encourage personal preparedness.** The more prepared your employees are, the more likely it is that they will be able to work for you during an emergency. Include emergency preparedness information in newsletters, or on company intranet.
8. **Develop an emergency communications plan** – provide workers with instructions on how to get company information in an emergency situation.

For more information on emergency preparedness for business and continuity of operations planning, contact the Boulder Office of Emergency Management or visit www.ready.gov/business.

Additional Resources: www.safeandwell.org

Photo provided by: Joe Geirlach

Recovering from a Disaster

Disaster recovery can take days to years depending on the extent of the damage to your home and community. Your first concern following a disaster is your physical and mental wellbeing and that of your loved ones. Local officials in coordination with the Red Cross will provide resources to help in locating family and friends.

Additional considerations after an emergency situation has become stabilized includes:

- *Be cautious of washed out roads, gas leaks, downed power lines, broken glass and contaminated areas.*
- *Be aware of exhaustion; do not try to do too much at once. Your safety and the safety of your loved ones is essential. Set a slow and steady pace.*
- *Drink plenty of clean water. Make sure your water source has not been contaminated by the disaster before drinking tap water.*
- *Follow the instructions of authorities regarding when it is safe to return to your home.*
- *Confirm the structural stability of your house before entering.*
- *Before going inside, walk around the outside and check for any structural damage, gas leaks and downed power lines.*
- *Inform local authorities about any health and safety hazards or concerns.*
- *Be aware of wild animals following a disaster. Animals are often also displaced during a disaster; they will likely be looking for shelter and food, possibly inside your home.*
- *Clean up any debris carefully. Clean or discard anything that has come into contact with contaminated water. Floodwaters can contain sewage, bacteria, or chemicals that may be harmful to humans.*
- *Get help if needed. Monitor local radio or television reports. After a large-scale disaster physical and mental recovery assistance is often made available through public assistance programs and disaster relief organizations.*

In the most severe disasters, the federal government will help with temporary housing, counseling and low-interest grants loans or grants. There are specific programs for individuals, businesses and farmers. Federal assistance becomes available when the President of the United States declares a "major disaster" for the affected area, at the request of the state governor. When the declaration is made, the Federal Emergency Management Agency (FEMA) in collaboration with local government may establish a Disaster Recovery Center (DRC) in the community, where people can meet face-to- face with federal, state, local and volunteer agencies that may be able to help address their disaster-related needs.

2013 Flood
Individuals and communities throughout Boulder County were impacted by the widespread flooding events of September 2013 including destroyed personal and public property, damaged municipal water and sanitation infrastructure, and massive roadway and utility disruptions.

Flood

Floods and flash floods almost always occur during or after a period of heavy rain, but other factors can also contribute to flooding, especially around or near low-lying areas:

- *Melting snow*
- *Clogged or inadequate gutters*
- *Poor or blocked drainage systems.*

Flash floods occur swiftly and without warning. The immediate danger is from the strength of the water current as it surges through an area, carrying debris and causing injuries and drowning. A flash flood would most likely result from a heavy rainstorm that stalls over any of the creek basins. As little as three to four hours of rain in the foothills could begin to overflow stream banks.

The terms "10 year," "50 year," "100 year," and "500 year" – flood, describe the probability that a flood will happen. They are based on historic rates of flow from a river or creek, and are often used to determine insurance rates in National Flood Insurance Program (NFIP) communities.

Vehicle Safety:

- Nearly half of all flash flood fatalities are vehicle-related. As little as 18 inches of water will float most automobiles.
- Never drive your vehicle through flood waters.
- While driving your vehicle, be aware of dips, culverts, bridges and low-lying areas.
- If your vehicle stalls, leave it immediately and seek higher ground.

Before a Flood:

- *Know your neighborhood flood history and low-lying areas.*
- *Consider purchasing flood insurance; most homeowner's policies do not cover damage from rising water. Your insurance agent will have more information about the National Flood Insurance Program (NFIP).*
- *Determine if your home and workplace are in a flood plain.*
- *Stay alert for changing weather conditions.*
- *When conditions indicate the potential for flooding, get out of low-lying areas, canyons and areas downstream from dams.*
- *If flooding becomes very likely, consider filling up sinks, bathtubs and other containers with clean water*

During a Flood:

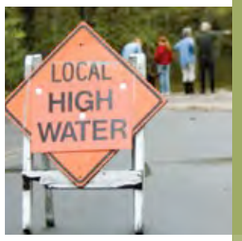
- *If you receive a flash flood warning, move to higher ground immediately. If you can evacuate safely and have been instructed to do so, move quickly.*
- *If you cannot evacuate safely, go to the highest floor in your house. Take your emergency supplies with you.*
- *Do not attempt to cross water that is above your knees.*
- *Do not drive over a flooded area or around barricades. Abandon a stalled vehicle and immediately move to higher ground.*
- *Avoid moving water – six inches can knock you off your feet, and 18-24 inches can float a car.*
- *Avoid standing water – it will likely be contaminated and contain large amounts of debris.*

After a Flood:

- *Follow the instructions of authorities and obey posted warnings.*
- *Wait for officials to determine if the water is safe to drink.*
- *Throw away water and food that has come into contact with floodwater.*
- *Check for utility outages. Utilities will have to be turned back on by a professional.*
- *Continue monitoring radio and television for information on weather and recovery efforts.*
- *Consider asking a professional to evaluate your home for mold.*
- *Use bleach to clean up – it is effective in killing germs, and can also be used to purify water to drink (10-20 drops of plain bleach per gallon of water).*

For more information about flood insurance, go to: www.floodmart.gov

Floodplain Management & Mapping: www.bouldercounty.org/property/flood



Probability of a flood occurrance in a given year

10-year flood	10%
50-year flood	2%
100-year flood	1%
500-year flood	.2%

Wildfire

© University Corporation for Atmospheric Research

Wildfire and urban wildfire are an ongoing concern for Boulder County and the State of Colorado.

- *Fire season extends from spring to late fall.*
- *Fire conditions arise from a combination of hot weather, an accumulation of vegetation, low moisture content in air and fuel.*
- *Conditions are worsened when combined with high winds and years of drought.*

Two factors have emerged as determinants of how well a home will be able to survive wildfire:

- *The home's roofing material*
- *Quality of "defensible space" around the home.*

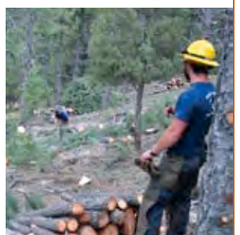


Photo Credit: Michael Rieger/FEMA

Roofing Material

- *Use fire-resistant materials (class C or better rating), not wood or shake shingles to roof homes.*
- *Check with your county building division. Some counties now restrict wood roofs or require specific classifications of roofing material.*

Defensible Space

Defensible space is the area around a structure where vegetation and potential fuels are treated, cleared or reduced to slow the spread of wildfire towards the structure. Creating an effective defensible space involves developing a series of management zones in which different techniques are used.

Zone 1 – The Safety Zone

This area is where you will do the most modification and treatment. It consists of an area of 15 to 30 feet around the structure, in which all flammable vegetation is removed. The 15 to 30 feet is measured from the outside edge of the home's eaves and any attached structures, such as decks. Within this zone, several specific treatments are recommended:

- *Plant nothing within three to five feet of the structure, particularly if the building is sided with a flammable material. Opt for weed barrier covered with rock or gravel instead.*
- *Make sure there are no areas of continuous grass adjacent to plantings in this area and frequently prune plants in this zone to ensure vigorous but low growth. Keep grasses mowed to four to six inches.*
- *Remove dead branches, stems and leaves.*
- *Enclose or screen decks with metal screening and extend gravel coverage under the decks. Do not use the area under decks for storage of anything that will burn.*
- *Do not store firewood in this area, particularly in sheds built onto the structure.*
- *Keep gutters and roofs clear of leaves, pine needles and debris.*
- *Remove all trees from this zone, or if you keep trees, consider them part of the structure and extend the distance of the defensible space accordingly.*
- *Isolate trees from each other, prune to at least 10 feet above ground, and remove branches within 10 feet of any chimney.*
- *Remove all 'ladder fuels' from beneath the trees. Ladder fuels are small shrubs, trees, limbs and other materials that allow a fire to climb on the tree crown of branches and foliage.*

Zone 2 – The Transition Zone

This is an area of fuel reduction and a transitional area between Zones 1 and 3. The size of Zone 2 will vary depending on the slope of the ground where the structure is built. The defensible space should extend from a minimum of 75 feet, to 125 feet or more from the structure. Within this zone, the arrangement of vegetation should be modified.

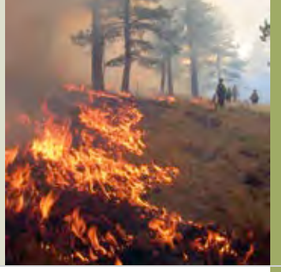
- *Remove stressed, diseased, dead or dying trees and shrubs.*
- *Thin and prune the trees and large shrubs in this zone so that there is at least 10 feet of distance between the crowns.*
- *Extend thinning along both sides of your driveway all the way to your main access road. This will help eliminate the continuous fuel surrounding a structure and also enhance home safety and the aesthetics of the property.*
- *Blend the treatment of Zones 1 and 3 by gradually decreasing the thinning of trees as you near the outer part of Zone 2.*
- *Mow or cut down grasses through the growing season to keep them no higher than six to eight inches. This is especially important in the fall when grasses dry out and after the spring thaw, when snow is gone, but before plants get green.*
- *Stack firewood uphill or at the same elevation as the structure, but at least 30 feet away. Keep flammable vegetation at least 10 feet away.*
- *Propane tanks are treated the same as firewood, but should be at the same elevation as the structure – if they are placed below, a burning tank will burn uphill toward your home; if placed above, leaking propane could impact your home when it flows downhill.*

Dispose of slash and other dead vegetation by chipping, piling and burning.

Note: Most counties have strict regulations about when and how to conduct controlled burning. Contact the Boulder County Environmental Health Department before you burn at 303-441-1100. In Boulder County, the Boulder County Sheriff's Communications Center also needs to know when you will be burning. Contact them at 303-441-4444.

Photo Source: www.fs.usda.gov

Additional Resources:
www.bouldercounty.org/property/forest



Wildfire (cont.)

Zone 3 – The Management Zone

This is an area of traditional forest management and is of no particular size. It extends from the edge of your defensible space to your property boundaries. In this area, you are encouraged to manage your forests in a more traditional manner. The actions you take will be determined by your objectives for your property. At minimum, you may want to:

- *Remove trees that are diseased, insect-infested, and those of poor form or low vigor.*
- *Thin trees for forest health.*

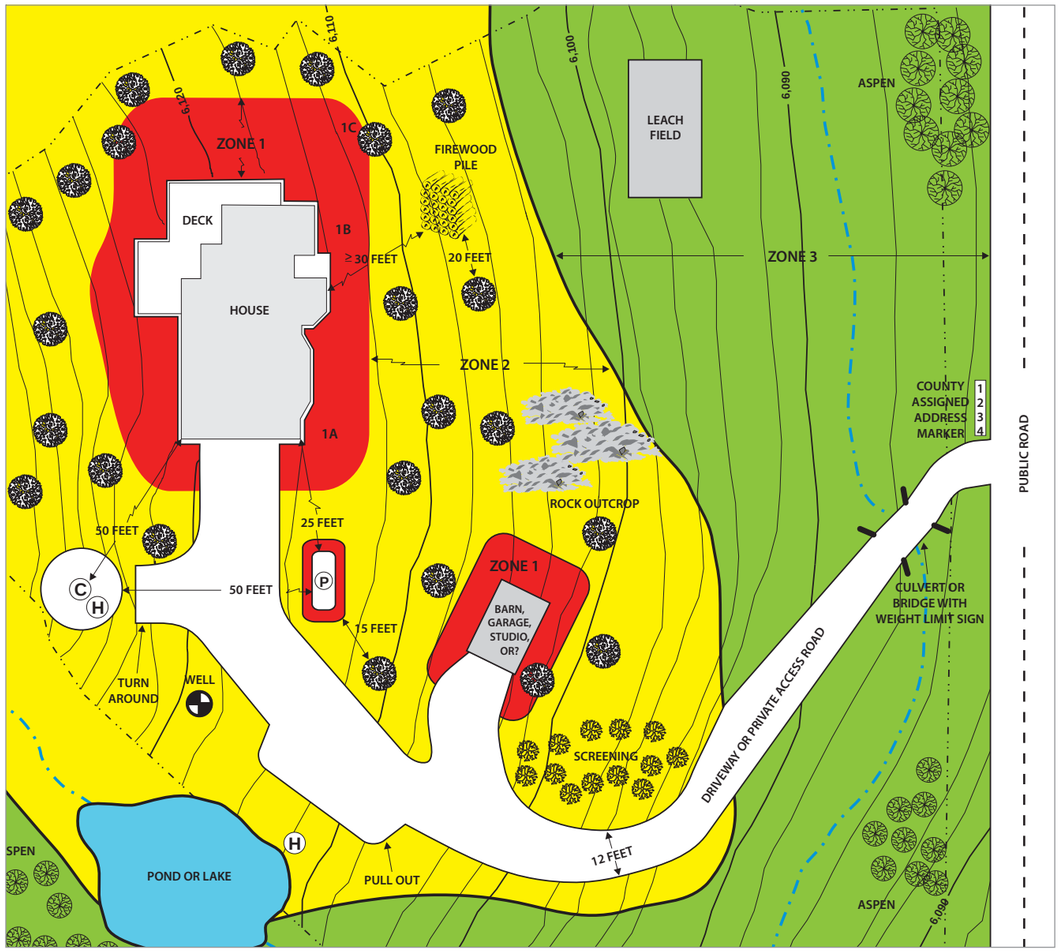
These actions will sanitize and improve the health of the forest on your land. If you choose to do methodical thinning in Zone 3, contact the Boulder County Wildfire Mitigation Coordinator for specific guidelines and advice at 720-564-2625.

Outdoor Recreation Fire Safety

Be aware of fire risks and take responsibility for your use of fire.

- *Before you leave home, check with authorities at your camping location for fire restrictions. During especially dry seasons, even recreational and cooking fires can be restricted.*
- *Be careful with campfires - only build fires in rings or grates. Avoid areas with overhanging branches, steep slopes and dry grasses.*
- *Maintain a safety zone around a campfire and always closely supervise children. Teach them to stop, drop and roll if their clothing catches on fire.*
- *Keep a bucket of water and shovel nearby to put out the fire. When extinguishing a campfire, drown it with water and stir with water and dirt until all the ashes are cold.*
- *Use self-contained cookers or chemical stoves instead of campfires for cooking.*
- *Keep hot mufflers and catalytic converters clear of grasses and shrubs.*
- *Think about how you would evacuate in the event of a wildfire. Plan the routes you could take, including at least one alternate route, in case your primary route is blocked. If you see smoke or a fire, call 911.*

Sample Wildfire Mitigation Plan



LEGEND

Zone 1 - The Safety Zone: 15 to 30 feet around structure(s)
1A – 3 to 5 feet from the structure(s); All flammable vegetation removed; Weed Barrier covered with crushed rock or gravel
1B – Green Space; Grasses mowed 4 to 6 inches
1C – Remaining Area; Mature trees pruned up to 10 feet

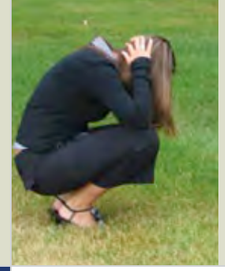
Zone 2 - The Transition Zone: From Zone 1 out 75 to 125 feet from the structure(s) – All ladder fuel and woody debris removed; Trees thinned so crowns are widely spaced 10 feet crown spacing; Limb trees 6 to 8 feet from ground

Zone 3 - The Management Zone: From Zone 2 to edge of property – Thin trees for forest health; Remove diseased or weakened trees

Well
Cistern (for firefightingmin. of 1,800 to 2,400 gallons)
Dry Hydrant (with 6 inch cap)
Propane Tank
Save Tree (in Zone 1 or 2)
Pocket of Trees (left for screening)

Aspen Stand (or other Deciduous Trees)
Rock Outcrop
Firewood Pile
Pond or Lake
Drainage or Stream
Property Line

The greatest numbers of tornadoes in Colorado occur between May and July.



If you feel your hair stand on end or your skin tingle, squat low to the ground with your hands behind or on top of your head. DO NOT LIE FLAT ON THE GROUND!

Tornadoes

Tornadoes form when cool, dry air sits on top of warm, moist air. In the plains areas of Colorado, Kansas and Oklahoma, this often happens in the spring and early summer when cool, dry mountain air rolls east over the plains, over-running warm moist air traveling north from the Gulf of Mexico. Most tornadoes move from southwest to northeast, but direction of travel may be erratic and suddenly change.

Tornado Watch:

- *Conditions are present for a tornado.*
- *Keep a radio/TV tuned for further information, and gather emergency supplies.*

Tornado Warning:

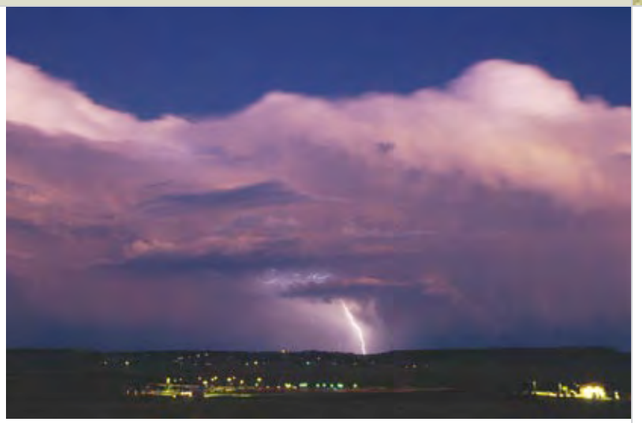
- *Tornado has been sighted or is imminent.*
- *Take shelter immediately in the basement of a sturdy building.*
- *If there is no basement – avoid windows and go to an interior hallway or small interior room, on the lowest floor, such as a bathroom or a closet*
- *Do not remain in a trailer or mobile home if a tornado is approaching.*
- *Take cover in a sturdier building or in a ditch.*
- *If you are in a high-rise building, go to the most interior rooms or hallways.*
- *At schools, hospitals, factories or shopping centers:*
  – Stay out of structures with wide free-span roofs like auditoriums and gyms. In a car or outside: Seek cover in a nearby building, or lie flat in a ditch or ravine.
  – If outside or in a car – seek cover in a nearby building or lie flat in a ditch or ravine. Avoid seeking shelter under an overpass or bridge.

High Winds

Violent downslope winds referred to as 'Chinooks' are common in Boulder County. These powerful winds can occur anytime, but are most common from December through May. Historically, the most severe Chinooks have occurred during the month of January, when the jet stream is the strongest and is usually directly over the area. Follow the same precautions for high winds that you would for tornado.

© University Corporation for Atmospheric Research

Lines of lenticular (lens-shaped) clouds like these often accompany severe downslope windstorms



© UCAR, Photo by Carlye Calvin

Spectacular, powerful, and sometimes deadly, lightning (as seen here on the plains east of Boulder, Colorado) is one of the most common weather phenomena.

Lightning

Lightning is an enormous electrostatic discharge between the cloud and the ground, other clouds, or within a cloud. According to the National Weather Service, an average of 48 people are killed each year by lightning in the United States. Colorado ranks 8th in the nation for number of injuries and deaths caused by lightning. Other lightning facts include:

- *All thunderstorms produce lightning and are dangerous.*
- *Lightning can strike up to 10 miles away from any rainfall.*
- *Lightning can cause death or permanent injury; 10% of people struck by lightning die, and 70% of survivors suffer serious long-term effects, including memory loss, sleep disorders, numbness, fatigue, muscle spasms and stiffness in joints.*
- *Lightning DOES strike in the same place twice – or more. In fact, it often has "favorite" places.*
- *Lightning strike victims do not carry an electrical charge and should be helped immediately.*

Outdoor Lightning Safety

- *Outdoors is the most dangerous place to be during a lightning storm.*
- *Take shelter in a building or an enclosed vehicle. Remember the 30-30 rule: The first 30 means you need to take cover if you hear thunder within 30 seconds of seeing lightning; the second 30 reminds you to wait at least 30 minutes after the last lightning flash or thunder before resuming outdoor activity.*
- *Do not touch anything metal during a thunderstorm.*
- *Avoid standing water.*
- *Don't wait for rain to take shelter. Most people struck by lightning are not in the rain.*

Indoor Lightning Safety

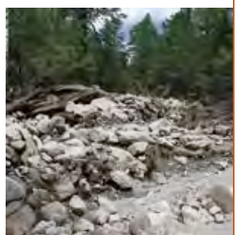
- *Avoid hard-wired phones.*
- *Avoid using electrical equipment*
- *Avoid plumbing – wait until the storm passes to wash your hands, do dishes, shower or do laundry.*
- *Stay away from doors and windows.*
- *Do not lie on concrete floors.*

Severe Thunderstorms

Thunderstorms develop when cold upper air sinks and warm moist air rises. As the warm air rises, storm clouds develop. These clouds make the thunderstorm, which brings strong winds, lightning, hail and rain. Thunderheads may be miles across at the base and reach heights of 40,000 feet or more. The typical thunderstorm is 15 miles in diameter and lasts an average of 30 minutes. They most often occur during the afternoon and evening hours. No matter their size, all thunderstorms can be dangerous. In addition, tornadoes and flash floods can be caused by these storms

Landslides

Landslides, also known as mudslides and debris flow, occur in all U.S. states and territories and can be caused by a variety of factors including earthquakes, storms and fires. They can occur quickly, often with little notice and 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."



What to Do:

- *Move away from the path of a landslide or debris flow as quickly as possible.*
- *Mudflows can move faster than you can walk or run.*
- *The danger from a mudflow increases near stream channels and with prolonged heavy rains.*
- *Look upstream before crossing a bridge and do not cross the bridge if a mudflow is approaching.*
- *If you suspect imminent danger, evacuate immediately. Inform affected neighbors if you can, and contact your public works, fire or police department.*
- *Curl into a tight ball and protect your head if escape is not possible.*
- *Be especially alert when driving— watch for collapsed pavement, mud, fallen rocks and other indications of possible debris flow.*

Landslides generally happen in areas where they have occurred in the past. Learn about your area's landslide risk. Watch the patterns of storm water drainage on slopes near your home, especially where runoff water converges.

Be aware that, generally, landslide insurance is not available, but that debris flow damage may be covered by flood insurance policies from the National Flood Insurance Program (NFIP).

Winter Storms & Extreme Cold

Winter storms vary in size and strength and can be accompanied by strong winds that create blizzard conditions and dangerous wind chill. There are three categories of severe winter storms:

Blizzard - is the most dangerous of all winter storms. It combines low temperatures, heavy snowfall, and winds of at least 35 miles per hour, reducing visibility to only a few yards.

Heavy Snowstorm - is one that drops 4 or more inches of snow in a 12-hour period.

Ice storm - occurs when moisture falls and freezes immediately upon impact.

Photo Credit: Beau Dodson, Weather Photography

Before the Storm

- *Be familiar with winter storm watch and warning messages. Service snow removal equipment and have rock salt on hand to melt ice on walkways and sand or kitty litter to generate temporary traction.*
- *To keep pipes from freezing, wrap them in insulation or layers of newspaper, and then cover with plastic to keep out moisture.*
- *Insulate walls and attic.*
- *Caulk and weather-strip doors and windows.*
- *Install storm windows or cover windows with plastic from the inside.*
- *Locate water valves and know how to shut them off, if necessary.*

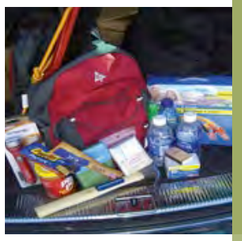
During the storm:

Indoors:

- *Stay inside.*
- *If you are using alternative heat, follow fire safety guideline and ensure proper ventilation.*
- *Close off any unused rooms.*
- *Put towels at the base of doors.*
- *Eat nutritious foods and drink plenty of fluids to provide energy and stay hydrated.*

Outdoors:

- *Find shelter. If none is available, build a lean-to, windbreak or snow cave for protection from the wind.*
- *Build a fire for heat and to attract attention. Place rocks around the fire to absorb and reflect heat.*
- *Eating snow for hydration will cause your body temperature to drop; melt it first.*
- *If you are stuck in your car, run the motor for 10 minutes each hour for heat. Make sure that your tailpipe is clear of snow.*
- *Make yourself visible to rescuers by turning on the dome light at night when running the engine, or by tying a brightly colored cloth to your antenna.*
- *Exercise periodically by energetically moving legs, arms fingers and toes to increase circulation and body temperature.*



Assemble a winter car kit

- Shovel
- Windshield scraper
- Battery-powered radio
- Flashlight and extra batteries
- Water
- Snack food
- Hat and mittens or gloves
- Tow chain or rope
- Tire chains
- Bag of road salt and/or sand
- Brightly colored distress flag
- Booster cables
- Road maps
- Emergency reflectors

Photo Credit: www.ready.gov

Winter Storms & Extreme Cold (Cont.)

After the Storm:

- *Assist neighbors who may need assistance, such as the elderly, people with infants, or those with special needs.*
- *Remove ice and snow from tree limbs, roof and other structures after the storm passes.*
- *When shoveling snow, avoid overexertion. Colder temperatures add strain to the heart, and can make strenuous activity feel less tiring. Be attentive to signs of dehydration.*
- *When outdoors, wear layers of warm, loose-fitting, lightweight clothing. Layers can be removed to prevent chill. Cover your mouth to protect your lungs from extremely cold air and avoid speaking unnecessarily.*
- *Watch for signs of frostbite, such as loss of feeling and a pale appearance in fingers, toes, nose and earlobes. If these signs are present, seek immediate medical attention.*
- *Watch for signs of hypothermia, including uncontrollable shivering, slow or slurred speech, exhaustion and stumbling. If these are detected, get to a warm location, remove wet clothing and drink warm, non-alcoholic beverages. Get medical attention as soon as possible.*

Photo Credit: Beau Dodson, Weather Photography

Winter Driving

Winterize your car, including a battery check, antifreeze, oil level and tires. Check thermostat, ignition system, lights, hazard lights, exhaust system, heater, defroster and brakes. Snow tires are recommended, and chains may be required in certain conditions, especially in the mountains.

Always keep your gas tank at least half full.

Extreme Heat

Extreme heat can threaten health by pushing the body beyond its limits. In prolonged high temperatures and high humidity, evaporation slows, and the body must work harder to maintain a normal temperature. Most heat disorders occur because the person has been overexposed to heat or has exercised more vigorously than appropriate for his or her age and physical condition. The elderly, young children, those with existing illnesses, and those who are overweight are more likely to succumb to extreme heat. A stagnant atmosphere and poor air quality can also contribute to heat related illness. As a result, people who live in urban areas may also be at greater risk during a heat wave.

Know the Terms:

Heat index – a number in degrees that tells how hot it feels when relative humidity is added to air temperature. Exposure to direct sunshine can increase the heat index by 15 degrees.

Heat cramps – muscular pains and spasms due to heavy exertion. Heat cramps are often not severe, but can be the first signal that the body is having trouble with the heat.

Heat exhaustion – typically occurs when people exercise heavily or work in a hot, humid place where body fluids are lost through perspiration. Blood flow to the skin increases, causing a decrease to vital organs. The result is a mild form of shock.

Heat stroke – a life-threatening condition where a person's temperature control system, which produces sweat to cool the body, stops working. Body temperature rises too high, which can result in brain damage and even death if the body is not cooled quickly.

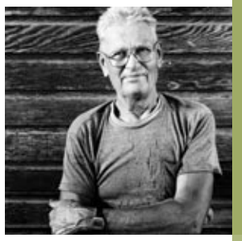
Sun stroke – another term for heat stroke.

Before Extreme Heat Occurs:

- *Check air-conditioning ducts for proper insulation. Install temporary reflectors, such as aluminum foil covered cardboard; in windows to reflect heat back outside.*
- *Install weather stripping in doors and windowsills to keep cool air in.*
- *Cover windows with drapes, shades, or awnings. Outdoor awnings and louvers can reduce the heat that enters your home by up to 80%.*
- *Install window air conditioner snugly; insulate if necessary.*

During Extreme Heat:

- *Stay indoors as much as possible. If air conditioning is not available, stay on the lowest floor and in the shade.*
- *Eat well-balanced, light and regular meals. Avoid using salt tablets unless directed to do so by a physician.*
- *Drink plenty of water, even if you do not feel thirsty. Persons who have epilepsy, heart, kidney or liver disease, are on fluid-restrictive diets or have a fluid retention disorder should consult a doctor before increasing liquid intake.*
- *Limit consumption of alcoholic beverages, as they can cause further dehydration.*
- *Never leave children or pets alone in closed vehicles.*
- *Dress in loose fitting clothes that cover as much skin as possible. Lightweight, lightly colored clothing reflects heat and sunlight, and will help maintain normal body temperature.*
- *Protect face and head by wearing a wide-brimmed hat.*
- *Avoid too much sunshine. Sunburn slows the skin's ability to cool itself. Use a sunscreen lotion of SPF 15 or greater.*
- *Avoid strenuous work during the warmest part of the day. Use a buddy system and take frequent breaks when working in extreme heat.*
- *Spend at least two hours per day in an air-conditioned place. If your home is not air conditioned, consider spending the warmest part of the day in public buildings such as libraries, schools, movie theaters, shopping malls or other community facilities.*



Extreme Heat
Check on family, friends and neighbors who do not have air conditioning and who spend much of their time at home alone.

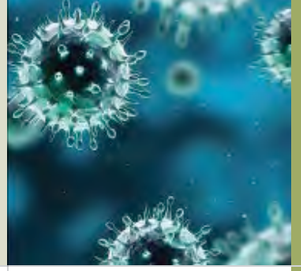
Drought

©UCAR, Photo by Carlye Calvin

Countless lakes across the central United States have gone dry in the last few months, including this one (Teller Lake No. 5) in eastern Boulder County, Colorado.

A drought occurs when a long period of time passes without any substantial precipitation. Since different sections of the country receive widely differing amounts of rainfall, the amount of time it takes for drought conditions to develop differs throughout the country. The frequency is difficult to measure since droughts can occur at any time of the year. The primary risk associated with a prolonged drought is an emergency water shortage. If this occurs, conserving water is extremely important. Pay attention to local news and follow the instructions of authorities during a drought to conserve water. The water you save may be enough to protect the critical needs of another person.

Learn more about Pandemic Influenza at: www.bouldercounty.org/family/disease



Pandemic Influenza

A pandemic is a global disease outbreak. A flu pandemic happens when a new influenza virus emerges for which people have little or no immunity, and for which there is no vaccine. The disease spreads easily from one person to another, causes serious illness, and can move across the country and around the world in a very short time.

Pandemics are different from seasonal outbreaks or epidemics of influenza.

- *Seasonal outbreaks are caused by subtypes of influenza viruses that already circulate among people.*
- *Pandemic outbreaks are caused by new subtypes, subtypes that have never circulated among people, or by subtypes that have not circulated among people for a long period of time.*

Past influenza pandemics have led to high levels of illness, death, social disruption and economic losses.

Vaccines

- *A vaccine will likely not be available in the early stages of a pandemic. Scientists around the world work together when developing a new vaccine against influenza to select the virus strain that will offer the best protection against that virus.*
- *Manufacturers then use the selected strain to develop a vaccine. Once a potential pandemic strain of influenza virus is identified, it can take several months before a vaccine is widely available.*
- *If a pandemic occurs, the U.S. government will work with many partner groups to make recommendations guiding the early use of available vaccine.*

Antiviral Medications

- *The U.S. Food and Drug Administration (FDA) has approved several different influenza antiviral medications for the treatment and/or prevention of influenza.*
- *Generally, these drugs will not 'cure' influenza, but rather will make the symptoms less severe and may shorten the length of the illness.*
- *All of them usually work against influenza A viruses. However, the drugs may not always work because influenza virus strains can become resistant to one or more of these medications.*

Preparing for Pandemic Influenza

- *Gather information and resources ahead of time so that you can lessen the impact on you and your family.*
- *Gather emergency supplies, especially food, water, and medical supplies.*
- *Ask your doctor and insurance company if you can get an extra supply of your regular prescription drugs.*
- *Have any nonprescription drugs and health supplies on hand, including pain relievers, stomach remedies, and cold remedies.*
- *Talk with family members and loved ones about how they would be cared for if they got sick, and what will be needed to care for them in your home.*

Limit the Spread of Germs and Infection:

- *Cover your nose and mouth with a tissue when you cough or sneeze. Throw the tissue in the trash after you use it.*
- *Wash your hands often with soap and water. If soap and water are not available, use an alcohol-based hand sanitizer.*
- *Avoid close contact with sick people.*
- *If you are sick with a flu-like illness, stay home for at least 24 hours after your fever is gone (without the use of fever-reducing medicines), except to get medical care or for other necessities.*
- *Follow public health advice regarding school closures, avoiding crowds and other social distancing strategies.*

Hazardous Materials Incidents

Hazardous materials are part of everyday life and include everything from industrial chemicals and toxic waste to household detergents and air fresheners. Incidents can range from a chemical spill on a highway to groundwater contamination by naturally occurring methane gas. Substances that are classified as hazardous materials because of their chemical nature and pose a potential risk to life, health or property if released or improperly used. Hazards can occur during production, storage, transportation, use or disposal.

The Boulder County Local Emergency Planning Committee (LEPC) works with the community to identify industrial hazardous materials and keep the community informed of the potential risk. All companies that have certain types and quantities of hazardous chemicals must report annually to the LEPC. The public is encouraged to participate in the process. For more information about the Boulder County LEPC, contact the Boulder Office of Emergency Management at 303-441-3390.

Before a Hazardous Materials Incident:

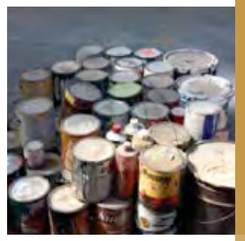
- *Contact LEPC about community plans for responding to a hazardous materials accident at a plant or other facility, or a transportation accident involving hazardous materials.*
- *Evaluate risks to your household. Determine your proximity to factories, highways or railroads that may produce, store or transport hazardous materials.*
- *Be prepared to shelter-in-place or evacuate if asked to do so by authorities.*

During a Hazardous Materials Incident

- *If you witness or smell a hazardous materials incident, call 911.*
- *Upon notification by public safety officials of a hazardous materials release, listen to local radio or television stations for further information. Follow instructions of authorities carefully. You may be asked to evacuate or shelter-in-place depending on your location.*
- *Stay away from the incident site to minimize your risk of contamination.*
- *If you are caught outside during an incident, remember that gases and mists are heavier than air. Try to stay Uphill, Upwind, and Upstream from the hazardous material. Try to go at least one-half mile, or about 10 city blocks away from the danger zone.*
- *If you are in a vehicle, stop and seek shelter in a building if possible. If you must remain in your car, keep car windows and vents closed and shut off the air conditioner or heater.*
- *Get household members and pets inside as quickly as possible.*
- *Avoid contact with spilled liquids, airborne mists or condensed solid chemical deposits. Keep your body fully covered to provide some protection. Do not eat food or drink water that may be contaminated. If indoors, fill the bathtub (sterilize it with a diluted bleach solution – one part bleach to 10 parts water), and fill large containers with water for drinking, cooking and dishwashing. Be prepared to turn off the main water intake valve in case authorities advise you to do so.*

After a Hazardous Materials Incident

- *Do not return home or leave your shelter room until local authorities say it is safe.*
- *Upon returning home, open windows, vents and turn on fans to provide ventilation.*
- *A person or item that has been exposed to a hazardous chemical may be contaminated and could contaminate other people or items. Follow decontamination instructions from local authorities.*
- *Seek medical treatment for unusual symptoms as soon as possible.*
- *If medical help is not immediately available and you think you are contaminated, remove all your clothing and place it in tightly sealed containers. Then shower thoroughly, washing your hands first. (NOTE: It is very important to pay attention to instructions from authorities; some chemicals are water reactive) Change into loose, clean clothing and seek medical help as soon as possible.*
- *Contact local authorities about proper disposal of contaminated items.*
- *Advise everyone who comes into contact with you that you may have been exposed to a toxic substance. Find out from local authorities how to clean up your land and property. Report any lingering vapors or hazards to local authorities.*



What Makes a Product Hazardous?

Toxic: can cause injury or death when inhaled, eaten, swallowed or absorbed through the skin

Flammable: can easily ignite and burn rapidly

Corrosive: can burn skin on contact and can eat away the surface of other materials

Explosive: can react with air, water or other substances to produce toxic vapors or explosions

Terrorist Hazards

What is Terrorism?

Terrorism is the use of force or violence against persons or property in violation of the criminal laws of the United States for the purposes of intimidation, coercion or ransom. Terrorists often use threats to create fear among the public, to try to convince citizens that their government is powerless to prevent terrorism and to get immediate publicity for their cause.

In the United States, most terrorist incidents have involved small extremist groups that use terrorism to achieve a designated objective local, state, and federal law enforcement agencies monitor suspected terrorist groups to try to prevent attacks.

A terrorist attack can take many forms, depending on available technology, the motivating political issue and the target's weaknesses. Bombings are the most frequent form of terrorism waged upon the United States. Other forms of terrorism may include attacks on transportation facilities, attacks against utilities or other public services, and the use of chemical or biological agents.

Photo Credit: FEMA/Bri Rodriguez

Protecting Yourself

If you see something, say something:
If you see something suspicious taking place then report the behavior or activity to local law enforcement or in the case of an emergency call 911. Factors such as race, ethnicity, national origin or religious affiliation alone are not suspicious.

Terrorists often look for visible targets with easy access, such as international airports, large cities, major international events, resorts and high-profile landmarks. Tactics may include detonating explosives, kidnapping, hijacking, arson or the use of firearms. You can prepare for terrorism in many of the same way that you prepare for other disasters.

Photo Credit: FEMA/Robert Rose

Chemical, Biological, Radiological and Nuclear Attacks

If you are exposed to chemical, biological, radiological or nuclear (CBRN) materials, you have a good chance of surviving if you receive immediate medical treatment. Some agents are contagious, so you may need to be quarantined. If you suspect a CBRN attack, notify local authorities immediately. Early notification can save our life and the lives of others.

Chemical Threats

Chemical agents are poisonous gases, liquids or solids that have a toxic effect on living organisms. They can be released by bombs, sprayed from aircraft, boats or vehicles, or be used a liquid to create a hazardous environment. Some chemical agents are odorless and tasteless, and they may have an immediate effect (a few seconds to a few minutes) or a delayed effect (several hours to several days). Chemical agents are categorized into six types:

1. **Lung-damaging (pulmonary) agents such as phosgene.**
2. **Cyanide**
3. **Vesicants, or blister agents, like mustard gas.**
4. **Nerve agents, such as GB, also known as sarin.**
5. **Incapacitating agents such as BZ.**
6. **Riot-control agents (similar to MACE).**

Should a widespread chemical attack occur, you would be instructed to seek shelter where you are and seal the premises, or to evacuate immediately. If you are instructed to shelter-in-place, do not leave to rescue others.

Protective actions include:

- **Cover your nose and mouth with a cloth.**
- **Take frequent shallow breaths.**
- **Stay calm.**
- **Don't TEST: Taste, Eat, Smell, Touch.**

Photo Source: www.coemergency.com

Awareness is Key

- Be alert and aware of your surroundings.
- The nature of terrorism is that you may have little or no warning.
- Take precautions when traveling.
- Be aware of suspicious or unusual behavior.
- Don't accept packages from strangers.
- Don't leave luggage unattended.
- Know where emergency exits are located.
- Think ahead about how to evacuate any place you frequent.

Terrorist Hazards (Cont.)

Biological Agents

Biological agents are organisms or toxins that produce illnesses in people, livestock and crops. Since biological agents can be hard to detect, and may take time to grow, it is difficult to know when a biological attack has occurred. If government agencies have inside information on a widespread biological attack, they may instruct you to stay put or evacuate.

In many biological attacks, people will not know they have been exposed to an agent. In such situations, the first evidence of an attack may be when you notice symptoms of a disease caused by a biological agent exposure, and you should see immediate medical attention. If you know you have been exposed to a biological agent, you should also seek medical attention immediately.

Biological agents are categorized into three groups:

1. **Bacteria** are small free-living organisms that reproduce by simple division and are easy to grow. The diseases they produce often respond to treatment with antibiotics.
2. **Viruses** are organisms that require living cells in which to reproduce, and are intimately dependent upon the body they infect. Viruses produce diseases that generally do not respond to antibiotics. However, antiviral medications are sometimes effective.
3. **Toxins** are poisonous substances found in and extracted from living plants, animals or microorganisms. Some toxins can be produced or altered by chemical means, and some can be treated with specific anti-toxins and selected drugs.

Photo Credit: www.ready.gov

Biological agents can be dispersed in several different ways:

1. **Aerosols** – Biological agents are dispersed into the air, forming a fine mist that may drift for miles. Inhaling the agent may cause disease in people or animals.
2. **Animals** – Insects and animals, such as fleas, mice, flies and mosquitoes, spread some diseases. Deliberately spreading diseases through livestock is also referred to as agro-terrorism.
3. **Food and water contamination** – Some pathogenic organisms and toxins may persist in food and water supplies. Most microbes can be killed and toxins deactivated, by cooking food and boiling water. Person to person spread of a few infectious agents is also possible. Humans have been the source of infection for the smallpox, plague and Lassa viruses.

Photo Credit: FEMA/Sara Lamason

Nuclear and Radiological Attack

Nuclear explosions can cause deadly effects – blinding light, intense heat (thermal radiation), instant nuclear radiation, blasts, fires started by heat pulses, and secondary fires caused by destruction. They also produce fallout, or radioactive particles that may be carried by the wind for hundreds of miles.

The challenges of acquiring and using nuclear weapons make the use of a nuclear device by terrorists unlikely. However, radiological dispersion devices (RDDs) or "dirty bombs," are much simpler and are thus considered far more likely to be used in a terrorist attack. These radiological weapons are a combination of conventional explosives and radioactive material, which is designed to scatter dangerous and lethal amounts of radioactive fallout.

Protection from fallout requires taking shelter. Fallout shelters do not need to be specifically constructed for that purpose. 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. The three protective facets of a fallout shelter are:

1. **Shielding.** Heavier, denser materials – thick walls, concrete, bricks, books and earth – are best to put between you and the fallout particles.
2. **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.
3. **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. At the two-week point, the fallout declines to about 1 percent of its initial radiation level.

Remember that any protection, however, temporary, is better than none. The more shielding, distance and time you can take advantage of, the better off you will be.

Terrorist Hazards (Cont.)

Bomb Threats

If you receive a bomb threat, get as much information from the caller as possible. Try to record the call if you can. Call 911 and notify the building manager. Additional steps include:

- *Do not touch any suspicious packages, even if they look "fake" or "unrealistic."*
- *Clear the area.*
- *When evacuating the building, avoid standing in front of windows or other open areas.*
- *Keep sidewalks and streets clear for emergency workers.*
- *If you are in a large building with many people, you may want to plan to have people evacuate to several different areas to avoid having everyone outside in a single group that could easily become a target.*

Additional Resources:

http://www.dhs.gov/if-you-see-something-say-something

http://www.ready.gov/terrorist-hazards

When an Explosion Occurs

- *Get out of the building as quickly and calmly as possible.*
- *If items are falling off bookshelves or from the ceiling, get under a sturdy table or desk.*
- *If there is a fire, stay low to the floor – crawl under the smoke.*
- *Cover your nose and mouth with a wet cloth.*
- *Feel closed doors with the back of your hand to determine if there is fire on the other side. If a door is hot, use an alternate escape route.*

After an Explosion

- *If you are trapped in debris and can't get out of the building, try to stay calm and avoid kicking up toxic dust.*
- *Cover your mouth with a handkerchief or clothing.*
- *Tap on a pipe or wall so rescuers can hear where you are. Use a whistle if available, but shout only as a last resort or if you can hear rescuers nearby.*
- *Shouting can cause you to inhale dangerous amounts of dust.*

Preparedness is Everyone's Job

A disaster puts stress on all sectors of society – local government, service providers, businesses, civic and volunteer groups, industry associations and neighborhood associations, as well as every individual. During the first few hours or days following a disaster, essential services may not be available. People must be prepared to be self-sufficient in the event of a large-scale disaster.

Additional Resources:

www.readycolorado.com

www.ready.gov

www.boulderoem.com

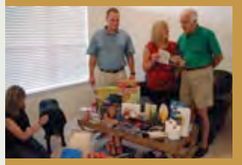


Photo Credit: FEMA / Jennifer Smits

Family Communications Plan

Your family may not be together when disaster strikes, so plan how you will contact one another and review what you will do in different situations.

READYColorado

Make a Plan. Make a Difference.

Out-of-Town Contact | Contact Name _____

E-mail _____ Phone _____

Fill out the following information for each family member and keep it up to date.

Name _____ Social Security Number _____

Date of Birth _____ Important Medical Info. _____

Name _____ Social Security Number _____

Date of Birth _____ Important Medical Info. _____

Name _____ Social Security Number _____

Date of Birth _____ Important Medical Info. _____

Name _____ Social Security Number _____

Date of Birth _____ Important Medical Info. _____

Name _____ Social Security Number _____

Date of Birth _____ Important Medical Info. _____

Where to go in an emergency. Write down where your family spends the most time: work, school and other places you frequent Schools, daycare providers, workplaces and apartment buildings should all have site-specific emergency plans.

HOME

Address _____

Phone _____

Neighborhood Meeting Place _____

Regional Meeting Place _____

SCHOOL

Address _____

Phone _____

Evacuation Location _____

Address _____

Phone _____

Evacuation Location _____

Address _____

Phone _____

Evacuation Location _____

WORK

Address _____

Phone _____

Evacuation Location _____

Address _____

Phone _____

Evacuation Location _____

OTHER PLACES YOU FREQUENT

Address _____

Phone _____

Evacuation Location _____

Address _____

Phone _____

Evacuation Location _____

Make a note of important contacts, phone numbers and policy numbers. Dial 911 for emergencies!

Contact	Name	Telephone #	Policy #
Doctor			
Doctor			
Pharmacist			
Medical Insurance			
Home/Rental Insurance			
Veterinarian/Kennel			
Other			
Other			
Other			

Every family member should carry a copy of this important information.

1-800-639-READY (7323)

READYColorado

Make a Plan. Make a Difference.

www.readycolorado.com

COMMUNICATIONS PLAN

Contact Name: _____

Telephone: _____

Out-of Town Contact Name: _____

Telephone: _____

Neighborhood Meeting Place: _____

Meeting Place Telephone: _____

1-800-639-READY (7323)

READYColorado

Haga un Plan. Haga una Diferencia.

www.readycolorado.com

PLAN DE COMUNICACIONES

Nombre de las personas con quien ponerse en contacto: _____

Teléfono: _____

Nombre de la persona con quien ponerse en contacto fuera de la ciudad: _____

Teléfono: _____

Lugar de reunion del vecindario: _____

Teléfono del lugar de reunión: _____