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(303) 289-5441
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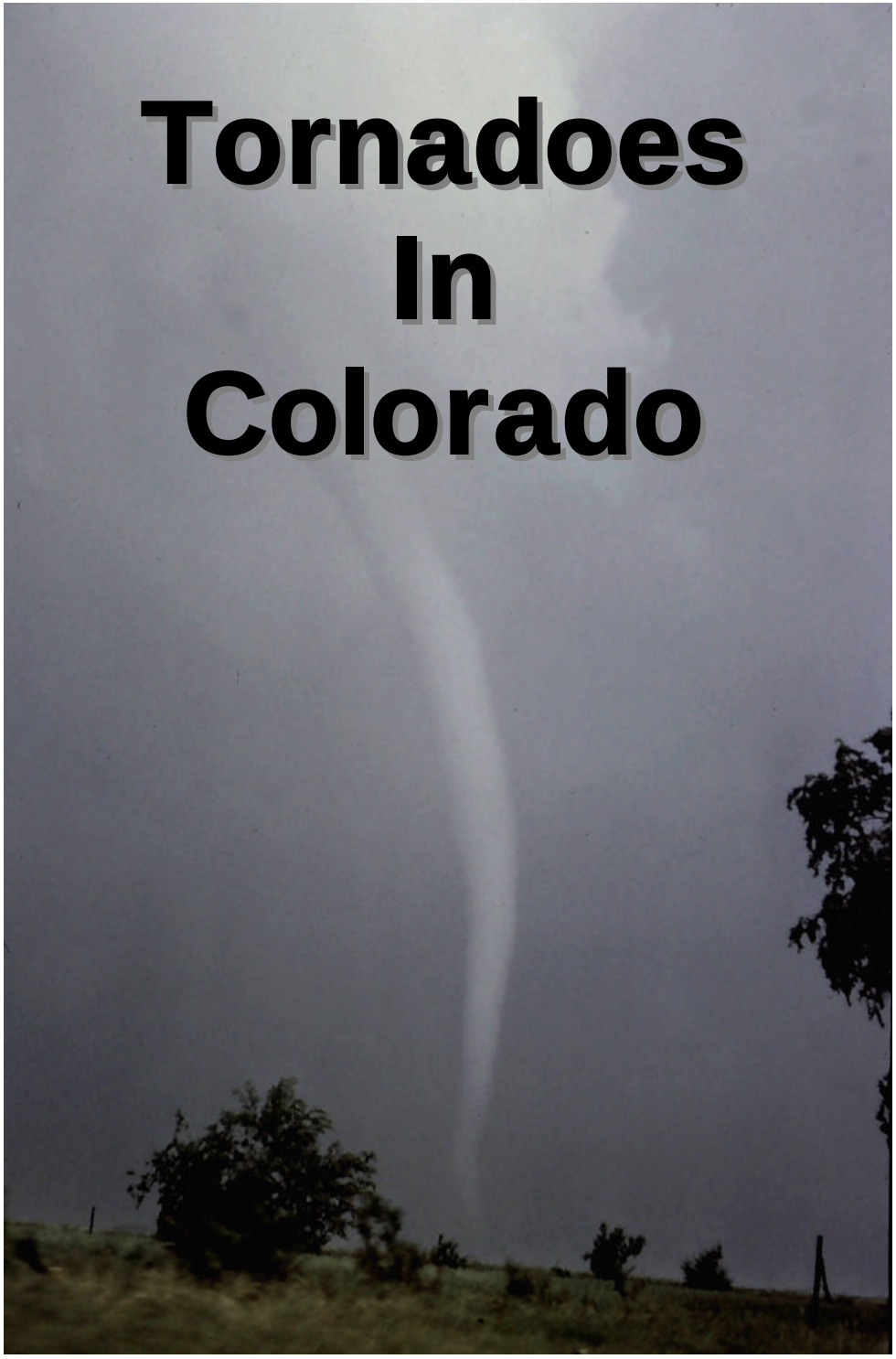
Then go to: services/department/emergency_preparedness

Tornadoes In Colorado



Tornado Season Strikes!

Tornadoes are one of the most powerful forces on earth. They can produce winds in excess of 250 miles per hour. They can move forward with an average speed of 30 miles per hour, although some have moved at speeds of 70 miles per hour. Tornadoes can be on the ground a short time or for several miles. The size of a tornado is not necessarily an indication of its intensity.

Tornadoes need certain weather conditions to develop. Warm, damp air on the ground, colder air above and swirling winds. As thunderstorms develop, wind direction changes and the wind speed increases. A thunderstorm updraft, rising air within the storm, pulls the winds upward into the area of rotation. A rotating column, or funnel, extends and grows toward the ground. The center of the funnel cloud is lower in pressure than the surrounding area, so air rushes into the column and rises. Because the air is cooled as it rises, water vapor condenses to form the recognizable funnel cloud. When the funnel cloud touches the ground it becomes a tornado.

According to the National Weather Service it is estimated that an average of 800 tornados across the county are reported yearly, resulting in more than 1,500 injuries and 80 fatalities.

Spring is tornado season, with about 50 percent of all reported tornadoes occurring between April and June. Most tornadoes strike between noon and sunset, with the eastern two-thirds of the United States home to the greatest concentration of tornadoes on earth. Tornadoes have been reported in every U.S. state but they are most concentrated in "Tornado Alley," which runs north from central Texas through Oklahoma and Kansas into eastern Nebraska, South Dakota and Iowa.

Colorado Tornado Facts

- In the past 10 years, there have been over 500 tornadoes in Colorado, an average of 60 tornadoes per year. A record was established in 1996 with a total of 98 reported.
- The number of reported tornadoes in the state has risen since the 1970's due to more residents, better communications, and more trained spotters.
- Normally, Colorado tornadoes are weak and are on the ground for only short periods of time. In 1997, there were 47 tornadoes and 46 of them were weak.
- Colorado is ranked 9th in the country for number of tornadoes.
- Tornadoes have been reported nine months out of the year. Colorado tornado season is typically lasts from mid-May through mid-August. June is by far the month with the most recorded tornadoes. (approximately two-thirds)
- Since 1950, Weld and Adams Counties have been visited by more tornadoes than any other counties in the state. It's mainly due to the size and geographical area which is prone to severe thunderstorm activities.

Strengthen Your Home

Roof—The roof is most vulnerable to damage from high winds. The connection between the roof and the walls must be strong enough to resist the "uplift" effect of strong winds. Roof trusses or rafters should be tied properly to exterior walls with metal strapping or connectors. Check with local lumber supply outlets, a building professional or local building and planning officials for products.

Windows—Installing storm shutters over all exposed windows and other glass surfaces is one of the easiest and most effective ways to protect your home. Cover all windows, French doors, sliding glass doors and skylights. Plywood shutters that you make, if installed properly, can offer a high level of protection from flying debris during a tornado. Plywood shutters can be installed on all types of homes. Check with your local planning officials regarding permits.

Doors—If you have double-entry doors and one door is fixed, check to see how the fixed half is secured both on the top and bottom. The bolts or pins used to secure the fixed door may not be strong enough to withstand extreme winds. Check with your local building supplies outlets to find out what kind of bold system will work for your door. Doors with windows will need additional protection from flying debris.

Garage Doors—Two-car garage doors can pose a problem during extreme windstorms because of their size. They wobble as high winds blow and can pull out of their tracks or collapse from the pressure. Some garage doors can be strengthened with retrofit kits. Check with your local building outlets for details.

Understanding FEMA & Local Agencies

FEMA stands for the Federal Emergency Management Agency and is the agency charged with building and supporting the nation's emergency management system. FEMA is called into areas that have been designated as a "Disaster." Once a disaster has been declared, it can take FEMA a few days to a few weeks to be on the scene. The first responders who respond to your emergency are at the local levels (i.e., firemen, policemen, emergency workers, medical workers, etc.)

It is imperative that you understand this and take actions to secure yourself and your family's safety until first responders can get to you. Get to know and understand your local emergency services prior to a disaster occurring. (i.e., County Emergency Management Offices, City Emergency Management Offices, Fire Departments, Police, etc.)

If a disaster has been declared and FEMA is on site, FEMA will do the following:

- Provide you with access to disaster assistance
- Provide you with an opportunity to tell your story
- Treat you with respect and care
- Give you clear, accurate information about available assistance and how to apply for it
- Explain clearly what you need to do after registering; what you can expect from government agencies and discuss the process of how long things should take
- If you are eligible, provide you with disaster housing assistance as promptly as possible and give you an estimate of when you will receive assistance
- Advise you on how to protect against future losses
- Use your suggestions to improve their services

Indicators

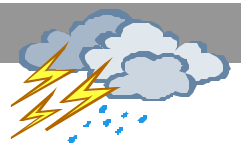
Tornadoes may develop so rapidly there is little time for advance warning. Sometimes the warning signs may come from Mother Nature herself.

One of the most important things you can do to prevent being injured in a tornado is to be ALERT to the onset of severe weather. Most deaths and injuries happen to people who are unaware and uninformed. Stay aware and you'll stay alive!

Signs that a tornado danger may exist in surrounding areas include:

- Very dark, often grennish sky
- Watch or Warning posted
- Large hail
- Strange quiet that occurs within or shortly after a thunderstorm
- Wall cloud; clouds moving quickly, especially in rotating pattern or converging toward one area of the sky
- Loud roar, often described as a freight train
- Debris dropping from sky
- Funnel shaped cloud that is rotating, or debris such as branches or leaves being pulled upwards even if no funnel cloud is visible

Severe Weather Notifications

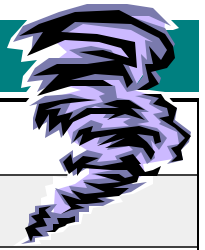


Modern techniques for tracking storms has helped warn the public about the possibility of severe weather. The National Weather Service will issue the following notices for the general public to prepare:

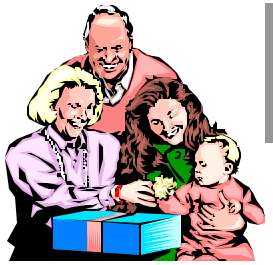
- ***Tornado watch***—when conditions are favorable for the development of tornadoes. During a watch, it is important to listen to the radio or television for changing conditions. Remain alert for approaching storm.
- ***Tornado warning***—when there has been a sighting or a tornado is indicated by weather radar. Under a warning, move to a place of safety and use a battery-operated radio to listen to changing conditions.
- ***Severe Thunderstorm watch***—when conditions are favorable for the development of thunderstorms. Remain alert for approaching storm.
- ***Severe Thunderstorm warning***—Severe thunderstorms are occurring.

Remember, tornadoes occasionally develop in areas where a severe thunderstorm watch or warning is in effect. Remain alert to signs of an approaching tornado and seek shelter if threatening conditions exist.

The Fujita Scale



F-Scale Number	Intensity Phrase	Wind Speed	Type of Damage Done
F0	Gale tornado	40-72 mph	Some damage to chimneys; breaks branches off trees; pushes over shallow-rooted trees; damages sign boards.
F1	Moderate Tornado	73-112 mph	The lower limit is the beginning of hurricane wind speed; peels surface off roofs; mobile homes pushed off foundations or overturned; moving autos pushed off the roads; attached garages may be damaged.
F2	Significant Tornado	113-157 mph	Considerable damage. Roofs torn off frame houses; mobile homes demolished; boxcars pushed over; large trees snapped or uprooted; light object missiles generated.
F3	Severe Tornado	158-206 mph	Roof and some walls torn off well constructed houses; trains overturned; most trees in force uprooted.
F4	Devastating Tornado	207-260 mph	Well-constructed houses leveled; structures with weak foundations blown off some distance; cars thrown and large missiles generated.
F5	Incredible Tornado	261-318 mph	Strong frame houses lifted off foundations and carried considerable distances to disintegrate; automobiles sized missiles fly through the air in excess of 100 meters; trees debarked; steel re-enforced concrete structures badly damaged.
F6	Inconceivable Tornado	319-379 mph	These winds are very unlikely. The small area of damage they might produce would probably not be recognizable along with the mess produces by F4 & F5 winds that would surround F6 winds. Missiles, such as cars and refrigerators would do serious secondary damage that could not be directly identified at F6 damage. If this level is ever achieved, evidence for it might only be found in some manner of ground swirl pattern, for it may never be identifiable through engineering studies.



Prepare a Family Disaster Plan

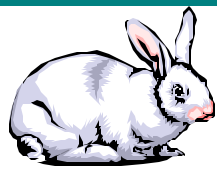
Conduct tornado drills each season. Designate an area in the home as a shelter and practice having everyone in the family go there in response to a tornado threat. Be prepared to be self-sufficient for three days until first responders can get to you.

Have disaster supplies on hand.

- Flashlight and extra batteries
- Portable, battery-operated radio and extra batteries
- First aid kit and manual
- Emergency food and water
- Non-electric can opener
- Essential medicines
- Cash or credit cards
- Sturdy shoes
- Important documents

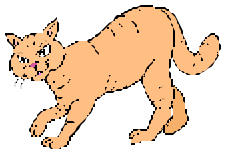
For more information on Disaster plans please see guidelines on website.
For more information on 72-hour kit, please see guidelines on website

Make Plans for your Pets



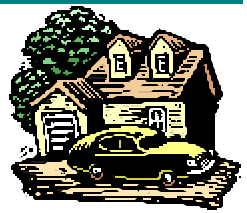
Shelters and some hotels/motels may not let you bring your pets. Keep a list of "pet friendly" places and phone numbers.

- In a disaster warning, keep your pets inside and make sure they are wearing collars and identification tags.
- Can't take your pets with you? Put them in a safe, secure room without window but with enough air, food and water for three days.
- Never leave your pets tied up outside.
- Put a notice on your front door saying where your pets are in the house and a phone number where you can be contacted.



Finding Shelter

The best shelters for safety purposes:



At Home:

- Storm shelter—specifically designed for this purpose. Within basement or outside the home entirely.
- Basement—away from the west and south walls. Hiding under a heavy worktable or under the stairs will protect the family from crumbling walls, chimneys, and large airborne debris
- In small, windowless, first floor interior room like a closet or bathroom.

At School:

- Leave auditoriums, gyms and other free-span rooms.
- Go to the interior rooms and halls on the lowest floor.
- Crouch down and make a small a "target" as possible.
- Cover your head with your hands.
- Stay away from glass areas.
- Avoid halls that open to the outside in any direction.

In High Rise Buildings:

- Interior rooms and halls.
- Central stairwells.
- Stay away from elevators.
- Stay away from glass walls and windows.

Mobile Homes:

- Speak with your local manager and find out where the designated tornado shelter is located.
- Evacuate your mobile home and seek shelter elsewhere.

Outside or in a Vehicle:

- If on foot or riding a bike, try to get home immediately to find shelter in the basement.
- Do not linger outside with your friends. Debris encounters is highly likely.
- If you are unable to get home, lying flat in a ditch or low-lying area may be the only thing available.
- A culvert in a ditch may be a good choice if there is no rain. If it is raining, flash flooding may become more dangerous.
- If in a vehicle, leave the vehicle and find shelter immediately.
- Do not try to out run a tornado.
- If unsuccessful in finding a shelter, locate a low-lying area, lying flat and covering your head.