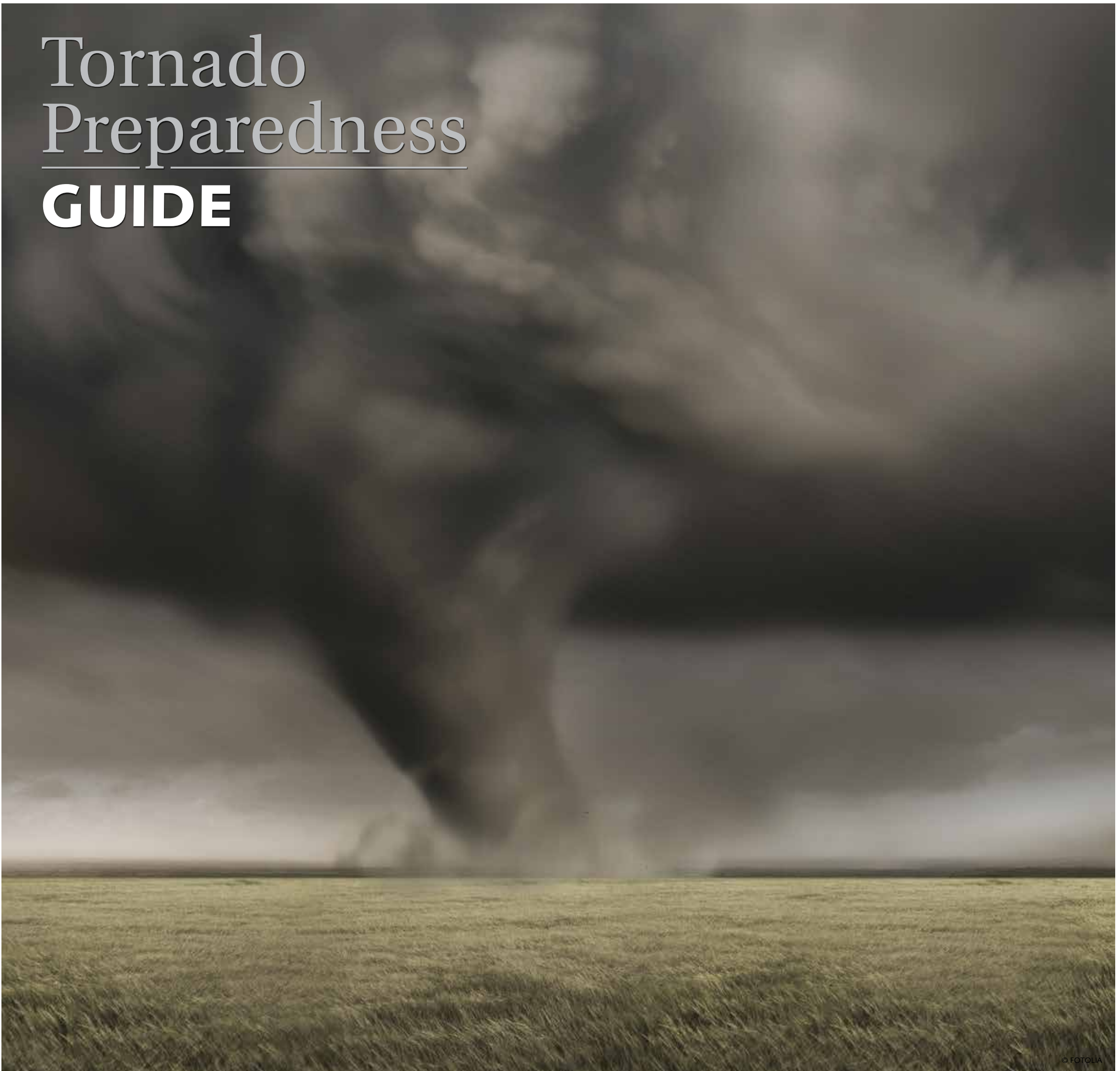


# Tornado Preparedness **GUIDE**



# Spotting a Tornado

**M**eteorologists and storm chasers use cutting-edge technology to recognize storm patterns that might form tornadoes. They are great about passing this information along but sometimes during a storm, you do not have access to their information. For maximum protection of yourself and your family, you should learn the basics on how to spot a tornado in your area.

The key to staying safe during a tornado is preparation. You should have a plan in place outlining where your family will seek shelter. Being able to recognize the sound of your county's tornado siren is extremely important. You also can get a head start by knowing what to look for in the sky.

## WHAT THE EXPERTS LOOK FOR

Meteorologists signal a tornado watch when thunderstorm conditions show signs of tornado development. They determine this by using weather prediction models designed to calculate atmospheric behaviors. This information is collected by weather balloons, satellites, aircraft and surface weather stations.

The computer models provide a comprehensive support system as long as the weather plays by the same rules by which the models are designed. That is not always the case, so meteorologists also are required to use educated predictions, specialized knowledge and visual signs to warn Americans of threats.

## WHAT TO LOOK FOR

While your local meteorologists do everything they can to prepare you for the possi-



bility of a tornado, there are times when you can't listen to their advice. The American Red Cross encourages you to look to the sky for these dan-

gerous warning signs of an impending tornado.”

- A wall cloud, or an isolated lowering of the base in a thunderstorm;

- Clouds of debris;
- Funnel clouds, noticeable by the visible rotation of a cloud base; and
- Roaring noises that last

longer than typical thunder. If you witness any of these occurrences, it is time to seek shelter, even if the tornado warning signals don't sound.

# Types of Shelter

Your best defense against the threat of a tornado is to be prepared and have a safe spot to hide. You have several different options in protecting your family during these frightening storms.

Depending on the structure you live in, the most secure locations might not be available to you. For instance, those who live in apartments should seek shelter in the lowest possible room. This could make the difference between life and death.

## BASEMENTS

Tornado experts are strong believers in heading to the basement once a tornado threat arrives. While the basement can be one of the safest rooms in your house, there are still some factors to consider.

Remember, above your basement is an entire house full of your belongings. Some furnishings such as refrigerators or stoves are extremely heavy and can fall through the basement ceiling. Once you are downstairs, you should still be underneath a heavy table with your head protected.



The National Oceanic Atmospheric Administration recommends covering yourself with a mattress if a sturdy table is not available.

## STORM SHELTERS

Being underground is your best bet during a tornado. Today, installing an underground storm shelter is not only affordable but a huge advantage during a threat.

A shelter is typically buried in the ground away from the home. Some shelters have entry that is accessed from your home, but these can be disastrous if a tornado destroys your home, blocking your exit.

A storm shelter set away from your home requires more preparedness before you enter. Ensure that you are not fleeing for the shelter during a

dangerous storm. Listen to your local meteorologists and plan to enter the shelter before the weather becomes an issue.

Before a storm arises, it is crucial to find out if you will be able to get cell phone signal in case of an emergency or if you become trapped.

## INTERIOR ROOMS

For those who do not have a

basement or are unable to install an underground storm shelter, it is especially crucial to know the safest areas of your home.

The key to staying safe above ground is to avoid windows and put as many walls between you and the storm as possible. Head for a closet surrounded by interior walls and hunker down until the storm has passed.

# Create a Family Plan

Having a plan that your family feels comfortable executing at the time of a tornado can be a lifesaver.

Due to the unpredictability of tornadoes, a solid family plan will be beneficial in preparing a safe spot and knowing when it is time to seek shelter.

## BE PROACTIVE

Before the storm hits, it is crucial for you to have the right supplies in your safe room. Remember that after the storm hits, you might not be able to leave right away.

Debris can sometimes pile up and create an unsafe exit from the room. The Red Cross recommends having these items readily available in your safe room:

- **Water:** A three-day supply. You should have enough for one gallon per person, per day.

- **Food:** Three-day supply of non-perishable, easy-to-prepare consumables.

- **Prescription medicines:** A seven-day supply of your important medicines is recommended.

- **Batteries:** Enough batteries to power weather radios or other important tools.

- **A safe:** Store personal documents such as insurance policies, birth certificates and



even extra cash.

- **Plenty of food and water for pets.**

## PRACTICE MAKES PERFECT

The best way to ensure that your family knows what to do in case of an actual tornado threat is to create an evacuation plan and practice it.

First, choose a room on the lowest level of your property. A storm shelter, basement or

room surrounded by interior walls will offer protection. Establish which room you will use and create the safest route of entrance. For instance, your path should avoid windows, items hanging from the wall or any other item that may fall during a tornado.

Don't forget your pets. Be sure that they are an important part of your tornado evacuation plan. Assign the

responsibility of getting your pets into safety to one of your family members. They should begin making your pet comfortable with the safe room before disaster strikes. Doing this will make your pet more likely to comply when a real threat exists.

## FAMILY DISASTER PLAN CHECKLIST

There are other important factors that your family

should be aware of. You can download a helpful template from The American Red Cross. A few recommendations from this plan:

- A meeting place for family near the home;

- The agreed-upon escape route and alternative routes in case the original is blocked; and

- A meeting place in a different neighborhood in case yours is deemed unsafe.

# Staying Safe During Cleanup

The National Severe Storms Laboratory estimates that an average of 1,200 tornadoes are formed in the United States each year. Their high winds and large mass make it easy to cause widespread havoc, sometimes destroying entire neighborhoods. This can make cleanup a dangerous job.

If you think of the different materials used to construct buildings being scattered across a tornado-ravaged area, you can imagine how much caution should be used during cleanup. Nails, broken boards and exposed electrical wires are just a few dangers to watch out for.

## DRESS TO PROTECT

Before you begin cleanup, be sure you're dressed in appropriate clothing to protect yourself. You will likely come across items that can cause serious injuries.

Your feet will be extremely vulnerable to damage during cleanup. By wearing metatarsal work boots, you will eliminate the risk of crushing tender bones in your feet if heavy objects fall on them. These boots offer full protection to the entire top of your foot rather than just protecting the toes, like steel-toed boots.

Pants should be thick to resist puncturing from sharp objects. Also, make sure they are tight fitting so they won't get snagged on things, which could cause you to trip and fall.

Safety equipment also is crucial. Always wear thick gloves and eye protection. A respirator or mask is equally important, especially in areas with high dust or older buildings where asbestos may be present.



## STAY SAFE WHILE TRIMMING TREES

Downed trees are a common sight in an area affected by a tornado. One of the most important aspects of safe tree trimming is to always be alert.

Before you begin, make sure the threat of the storm has

completely passed, and always perform a hazard assessment of the work area. Be sure power lines are a safe distance from any area where you will be working.

If you notice power lines in an affected area, you must contact your local utility com-

pany to find out if they are live or can be de-energized.

## KNOW THE HAZARDS

The Occupational Safety and Health Administration has listed some of the most common hazards you might experience during a tornado cleanup:

- Electrical injuries from live power lines;
- Sharp objects, such as nails or broken glass;
- Dehydration or exhaustion from long hours of cleanup; and
- Slips or falls due to slick walkways.

# Experiencing a Storm on the Road

A tornado does not wait until everyone is secured in their safe rooms to wreak havoc. Even though meteorologists have become efficient in providing plenty of warning about thunderstorm conditions that may result in a tornado, it is difficult to plan around a storm.

This underscores the importance of you knowing how to stay safe if you find yourself in the middle of a tornado while driving.

## **DON'T ATTEMPT TO OUTFRAN A TORNADO**

According to the National Weather Service, trying to outrun a tornado in your vehicle is a huge mistake. Due to the high speeds at which tornadoes move and the unpredictability of their movement, it is best to be off the roads if a tornado warning has been issued in your area.

If you do find yourself in a situation where you must drive during a tornado to seek shelter, experts recommend driving in a 90-degree angle away from the storm. This is an efficient strategy to put distance between yourself and a tornado until you find suitable shelter.

## **WHERE TO HIDE**

When driving through a tornado, your biggest goal should be to find shelter in a sturdy building. You can find great safety in places such as banks or fast food restaurants.

A bank's vault is constructed of high-strength steel that can stay in-tact due to high winds created by tornadoes. In a fast food place, you will want to head for the walk-in refrigerator. This is a room



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surrounded by interior walls that can make for a safe option.

## **IF YOU CAN'T FIND SHELTER**

You have probably heard that an underpass is a safe place to wait out a tornado if

you are forced to be on the road. This is incredibly untrue and may put you in serious danger. The winds caused by a tornado can easily pass through an underpass, causing your vehicle to be blown away or even collapsing the structure.

If you are forced to endure a tornado while in your car, keep your seat belt secured and protect your head. The American Red Cross recommends always keeping a blanket in your car to protect yourself from broken glass.

Another popular myth

debunked by the National Oceanic and Atmospheric Administration is that ditches, culverts and ravines are suitable places of shelter. These should only be used as a last resort, as you will be subject to flying debris, hail, lightning and extreme winds.

# Tornado Safety for Kids

For some kids, the noises and conditions that occur during a tornado can be a terrifying experience. It is important to teach them to be just as prepared for a threat as you are. Always include them when designing your emergency plan.

Lilapsophobia is the medical term used to describe a phobia of tornadoes. This phobia is typically caused by experiencing trauma during these violent storms. It can develop in young children if they are unprepared for the overwhelming power produced by a tornado. To prevent your child from being haunted by these storms for life, teach them how to stay safe during a threat.

## INTRODUCTION

The best time to introduce your children to tornado safety is during calm weather conditions. Waiting until the thunder rolls, lighting flashes or the power is out can cause panic in your child and make it more difficult for them to focus on your advice.

Instead, check with your local officials to learn when the regulated tornado siren tests are performed. Before the sirens begin blaring, reassure your child that it is only a test and is necessary to keep them safe in the future.

Once the sirens begin, let them become comfortable with the new noise and explain what it means when the weather is questionable. This also is a good time to perform a practice run of your emergency plan. Calmly explain the path they

will take to the safe room.

Ask your child about the sirens after a few days to make sure they absorbed the information.

## TORNADO DRILLS

Children learn the best by repetition. That's why it is crucial to practice the safety plan that is in place. Again, do this during calm weather to ensure children will be comfortable with the drill once an actual tornado threat occurs.

Practice the drill in the exact way you would if there was an actual emergency. Make sure to display where the emergency food, water and other necessities are located.

## OWLIE SKYWARN

Owlie Skywarn is a friendly-cartoon owl created by the National Weather Service to gently introduce children to the seriousness of severe weather. Through easy-to-read comics and a social media presence, Owlie teaches children important lessons in tornado safety.

By accessing the tornado-safety workbook, your children will learn tornado facts, the best places for protection in their home or school and even take a quiz to make sure they understand the lesson.





# By the Numbers

**T**ornadoes have been posing a threat in America for centuries. There are no preventative measures to avoid these devastating storms; our only defense is to be prepared when they occur.

The National Oceanic and Atmospheric Administration has done a great job of tracking and recording the impact tornadoes have had on America.

Have a look at the following startling facts about tornadoes.

- The deadliest tornado in United States history occurred on March 18, 1925. This tri-state tornado killed nearly 700 people.

- Tornadoes are rated using the Enhanced Fujita Scale,

which rates intensity on the damage inflicted to structures and vegetation. The five ratings include: EF-1, EF-2, EF-3, EF-4 and EF-5.

- Tornadoes are the most violent of all atmospheric storms.

- Most tornadoes occur between 4 and 9 p.m. but can develop anytime.

- Nearly 95 percent of tornadoes in America are below an EF-3 intensity. With an average of 1,000 developments per year, the U.S.

should expect at least 20 EF-4 or EF-5 tornadoes each year.

- Since 1950, when tornado recording began, there have only been 59 tornadoes in America ranked at an EF-5 intensity. The last one occurred in Oklahoma in 2013.

- The United States averages more tornadoes per year than any other country, with 1,000. Second place goes to Canada, with only 100 per year.

- Thanks to improved fore-

casting and early-warning systems, the number of lives lost from tornadoes has dropped drastically.

- An EF-5 tornado can feature winds over 300 mph.

- In southern states, “tornado season” occurs from March through May.

- A typical tornado travels at 30 mph, but some can move up to 70 mph.

- A tornado once carried the sign from a motel in Oklahoma only to drop it 30 miles later in Arkansas.