Tornado Preparedness GUIDE

Determine a Safe Spot

Don't wait until the imminent threat of a tornado to find the safest spot in your home. A proactive part of emergency preparedness is to develop a plan and practice it with your family. If you don't have a basement or storm shelter, you should know where the next best area is to wait out a storm.

Make sure to stock your safe spot with necessities to keep you content and comfortable in case damage prevents you from leaving. The American Red Cross urges us to collect items like:

- Non-perishable food and enough water to last at least three days. Don't forget your pets when planning.
- Fully charged cell phones and flashlights, with extra batteries.
- A seven-day supply or medications you require.
- A NOAA Weather Radio.

During your daily routine, keep a list of other items you rely on and purchase extras for your preparedness kit. When considering which area of your home is the safest for storm survival, remember these tips from the National Oceanic and Atmospheric Administration.

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HOME, DORM OR APARTMENT WITHOUT BASEMENT

The key to staying safe in a building without a basement or underground shelter is to avoid windows. During an impending tornado, seek refuge in a room at the lowest level of your home; some areas to consider are an interior hallway or under a stairwell. It's a good idea to keep a helmet on hand to protect yourself from falling debris. Another area that can provide safety is a bathroom. Crouch low in a bathtub and cover yourself with padding like a mattress or blankets.

MOBILE HOME

If you live in a mobile home, it's important to have an evacuation plan in place before the storm arrives. Even if the structure is tied down, it is not suitable to withstand winds from a tornado, which can reach over 300 miles per hour, according to the Storm Prediction Center.

As part of your preparedness strategy, reach out to a neighbor or loved one nearby with a basement or exterior shelter. If the threat of severe weather is present, give yourself plenty of time to make it to a destination, so you don't find yourself driving through the storm.

Spot the Signs of a Tornado

While local officials will do their best to warn you of the impending chances of a tornado, conditions may arise where you are left without an alert. Familiarize yourself with signs that a potential funnel cloud is forming. To protect and prepare yourself, consider these warning signs from the Storm Prediction Center.

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ROTATION

To understand the threats above you, here is come common activity which storm spotters use to identify dangerous conditions.

Inflow bands are described as ragged bands of low cumulus clouds reaching from the main storm tower to the southeast or south. This usually signifies the storm is gathering low-level air, which typically means rotation is present.

A wall cloud is an isolated cloud attached to the base of a thunderstorm. Wall clouds will typically last 10-20 minutes before a funnel appears.

A condensation funnel is known as a funnel cloud until it contacts the ground when it officially becomes a tornado. They are made up of water droplets and extend toward the base of the storm.

If you notice a funnel or any activity that makes you feel uneasy, get to shelter. Tornadoes can be unpredictable, leaving you without time to seek refuge.

DURING THE DAY

While the National Severe Storms Laboratory suggests most tornadoes occur during 4 and 9 p.m., if conditions are right, they can arrive at any time. Try to listen for distinguishing noises like loud roars or rumbles that don't fade away like normal thunder. Many experts say the sounds of an active tornado are compared to large freight trains or intense waterfalls.

DURING THE NIGHT

Nighttime hours make warning signs less easy to spot. During the dark, an eerie sight to see during a tornado is bright, blue-green to white flashes on the ground near a storm. This usually means power lines are snapping in the path of the funnel. You can also analyze the cloud base being illuminated by lightning. If it is consistently lowering, it is likely a tornado will soon form.

Create a Communication Plan

Chances are that severe weather will break out when you are separated from family members. Make sure to have a plan so everyone knows where to seek shelter and how to reunite after the threat is over. Here are some things to include in your strategy as recommended by the Federal Emergency Management Agency.

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SEEKING SAFETY

Of course, you should have a plan in place to wait out a storm when everyone is home. However, with the unpredictability of a tornado outbreak, it's likely your family members may be in different locations. FEMA encourages you and loved ones to understand emergency protocols for the places you frequent.

School: Meet with officials to discover their safety plans. Typically, elementary and high school students practice drills where they seek a safe place like a hallway to protect themselves. Younger children should also perform these methods at home to ease the stress and anxiety during an actual event.

Workplace: Teenagers should know where to go during a tornado if it occurs during their work hours. Make sure to stress the importance of safety as they may not understand the seriousness of the situation. Adults should also know how to react to an impending storm at their workplace. Encourage your leaders to practice before tornado season so both old and new employees understand procedures.

MEETING PLACE AFTER THE STORM

If your home or property experiences damage, it's important to follow safety precautions before rushing to find loved ones. The Centers for Disease Control and Prevention says to be aware of hazards from exposed nails or glass and to avoid areas with downed power lines. Ensure your family members know where to go once conditions are safe to leave. You can meet up at business or safe place in the neighborhood or a landmark on your property.

OUT-OF-TOWN CONTACT

If local phone lines are jammed, it's likely you won't make contact to others in your area. It's important to have an out-of-town contact for your family to reach out to. When someone can't make it to the meeting spot, your contact can give you peace of mind that they are safe and waiting for conditions to improve.

History of Tornado Forecasting

Today, the National Weather Service and our local meteorologists can prepare us for the risks of an impending tornado. American history shows that our ancestors didn't receive the same warnings – in fact, in the early 19th century, the word tornado itself was banned from forecasts.

Take a look at the unique history and strides our country has made to bring awareness to tornadoes.

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THE BAN

According to the American Meteorological Society, forecasting was handled by the United States Army Signal Corps, who placed a ban on tornado warnings in 1887. It was thought that the alerts would cause more harm than good by frightening Americans.

Before the introduction of official warning statements, people relied on their senses and warning signs like restless animals and sky conditions.

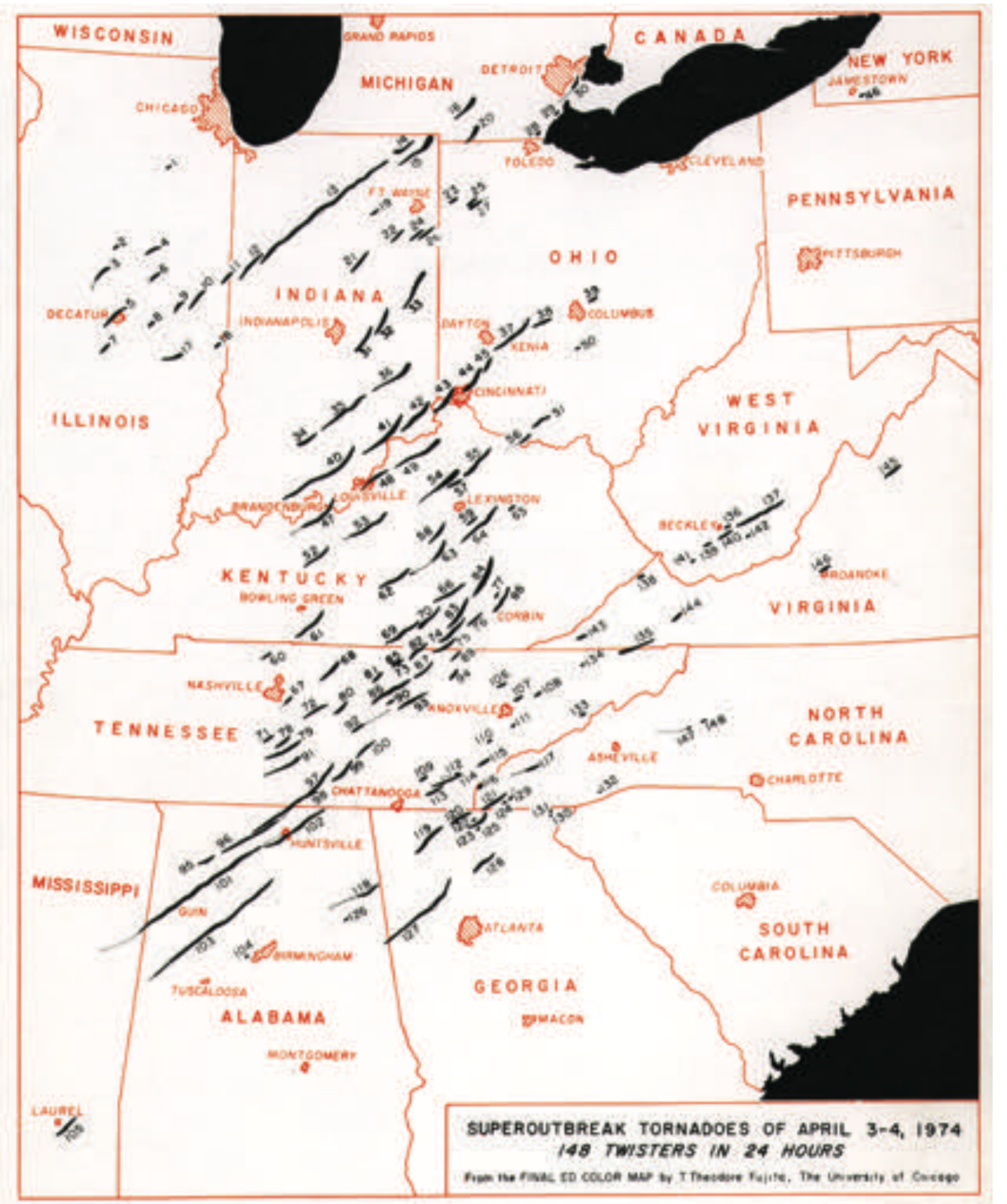
In 1938, the Weather Stations Bureau again allowed the word tornado, and modern tornado forecasting began. The first official forecast of a tornado was made at Tinker Air Force Base in 1948 and, by 1950, tornado warnings were issued to the public.

THE 1970S

It wasn't until early in this decade that outdoor air-raid sirens were used as a warning tool. Prior, to this innovation, citizens relied on television and radio programming for alerts.

Early in April of 1974, Americans suffered through the Super Outbreak. According to the National Weather Service, the event affected 13 states across the United States from the Great Lakes to the Deep South. There were 148 cyclones recorded and resulted in 335 deaths and over 6,000 injuries.

The Super Outbreak is credited as an awakening experience for government officials regarding forecasting. Dedicated experts have improved in nearly every aspect of predicting a tornado including, advanced lead times for warnings, accurate forecasts, more efficient communications and improved public awareness.



PUBLIC DOMAIN/WIKIMEDIA COMMONS

Don't take your local warning systems for granted, instead, take shelter.

JENNIFER SMITS/PUBLIC DOMAIN

NOAA Weather Radio: FAQs

A great way to stay on top of the chances of severe weather in your area is by utilizing a specialized weather radio offered by the National Oceanic and Atmospheric Administration. Make sure to keep extra batteries on hand or purchase a hand-crank model to receive updates if electricity is out.

Check your local area for workshops on programming and a demonstration on using the radio properly. Here are some frequently asked questions about weather radios.

What is a NOAA Weather Radio?

It is nationwide network of stations which broadcast weather information directly from the National Weather Service. As an all-hazards warning system, the radio releases warnings and post-event information on both natural and technological emergencies.

How can I receive alerts if I'm visually or hearing impaired?

Specially designed weather radios can be easily connected to other warning devices like strobe lights, bed shakers and even text printers.

How do I test my radio to ensure it is programmed correctly?

The National Weather Service schedules a weekly test for each of its Weather Radio transmitters. Typically, they occur every Wednesday, between 11 a.m. and noon, local time. Keep in mind, tests will be postponed during a live emergency.

Can I program my radio for a different area in the United States?

Yes, when you're moving or visiting another location, use the map offered by the National Weather Service's website. It is easy to find the frequencies for different areas.

What features should I look for when purchasing a radio?

There are several different models available, the most useful feature you should search for is one offering an alarm tone. Also, choose an option that will operates on batteries or with a hand crank in case the power goes out.

Is there a way to improve my weather radio's signal?

Many things can affect the quality of reception your transmitter receives. If you live near large bodies of saltwater, dense forests or hills, you can use an external antenna to improve your signal.

Create Community Awareness

According to the National Centers for Environmental Information, the United States records an average of 1,253 tornado strikes per year. If you live in an area where tornadoes frequently occur, consider working with community leaders and peers to create more awareness.

Social media makes it simple to reach out to local officials and your peers to disclose your concern about public safety. Urge the community to gather periodically and discuss suggestions from governmental officials regarding tornado preparedness. Don't forget to cover the basics like seeking safety, preparing a survival kit and looking out for those without a place to go.

Check with your local shelters and businesses to discover their policies on providing a safe place to wait out the storm and raise public awareness.

If you're a public official, use your leadership role as an opportunity to advocate for tornado awareness. Here are some ideas to consider.

Many areas perform statewide tornado drills to prepare locals for a severe weather situation. If your community doesn't actively participate, this is a good place for improvement. Make an announcement to alert the public about the upcoming event.

Encourage people to take the drill seriously and practice their emergency plan. It isn't only a great way for citizens to become accustomed to the warning noise, communities can also ensure their systems are working properly.

As a leader, you should also alert citizens to grants and funding programs to build safe rooms or shelters for disaster protection.

Build an Effective Safe Room

While it usually isn't affordable or practical to tornado proof your entire home, you can construct a safe room to provide yourself and loved ones a refuge during the storm. Both residences and businesses should consider building an effective safe place, especially if the structure lacks a lower level like a basement.

The potential damage these destructive storms produced is measured using a system called the Fujita Tornado Damage Scale. Categories range from F1-F5; the most extreme cases can see winds exceeding 300 mph. However, even moderate storms can cause structures to collapse and cause windows to explode.

NEW CONSTRUCTION VS. RETROFIT

While it's feasible to retrofit a safe room into an existing home, cost of the addition is about 20 percent higher than including it in new construction plans. In most cases, it is easier to invest in a manufactured structure rather than building from the ground up. Be sure the unit is within another room that is structurally connected to the home.

If you plan to incorporate a shelter in your new home plans, make sure your contractor follows the guidelines from FEMA P-361, as the design is strong enough to remain intact through winds of 250 miles per hour.

INTERIOR OR EXTERIOR

Ideal places for interior shelters include a basement or corner of a garage away from overhanging tree branches. Another benefit of having a safe room indoors is it lessens the chances of rushing outdoors through severe elements to reach safety.

Exterior safe rooms can be more economical than renovating. According to FEMA standards, residential shelters should be no more than 150 feet away from the entrance of a home. To add an attractive aesthetic to your property, consider erecting a shelter adjacent to the existing building and using the same siding material to cover it.