

TECHNICAL INFORMATION PAPER SERIES



PREPARING FOR TORNADOES.

Tornadoes cause an average of 70 fatalities and 1,500 injuries in the U.S. each year.

WHY PREPARE?

The potential for tornado damage in the U.S. remains strong. Just three years ago, the country was overcome by a series of particularly destructive storms, including a tornado outbreak in late April 2011 that killed more than 300 people across seven states, and one in May that devastated Joplin, Missouri. That year was one of just three since 1950 with more than \$25 billion in damage, and the 560 deaths in 2011 were the most fatalities since 1925, when 794 people died. The average annual U.S. property losses caused by tornadoes, from 1950 to 2013, is \$5.9 billion in today's dollars.

WHAT IS A TORNADO?

A **tornado** is a violently rotating column of air that makes contact with the ground. If it does not make ground contact, it is called a **funnel cloud**. If it makes contact with water, it is called a **waterspout**. Funnel cloud and waterspout tornadoes may last only a few seconds, or they may continue for over an hour.

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So which state has the most tornado damage? In total damage suffered since 1950, Texas has the melancholy distinction of leading the way, followed by Indiana, Missouri and Oklahoma. If we look at damage per square mile, the leaders are Connecticut, Massachusetts and Indiana, and Texas drops to 29th. There are fewer tornadoes in New England, but high populations and development mean a risk of more damage. The only state with no tornado losses during this period is Alaska.

While tornadoes occur throughout the year, their destructiveness is most intense in April, May and June, with 66% of total damage and 55% of total tornadoes in those three months. Only 20% of annual damage occurs after July 1.

HOW DO TORNADES FORM?

Most tornadoes are associated with thunderstorms and develop in the right rear quadrant of the storm. They are believed to be created when warm, moist air is rapidly lifted upward by a cold front, or from hot air rising from daytime heating. Tornadoes can also occur during hurricanes.

The average tornado produces winds in the range of 150 mph; it typically cuts a path 200 yards wide and travels about nine miles. However, some tornadoes have produced winds with speeds of up to 500 mph. The very strongest tornadoes may cut paths up to several hundred yards wide and may travel for up to 30 miles.

WHAT WARNINGS MIGHT BE GIVEN?

Know tornado terminology:

A **tornado watch** means that weather conditions are right to produce a tornado in the area.

A **tornado warning** means that a tornado has been sighted and may be heading toward your area. Go to safety immediately. When the tornado

warning is issued, all employees should move to the designated secure area.

BUSINESS CONTINUITY MANAGEMENT: BEFORE A TORNADE

It is not economically feasible to design a structure to withstand the forces of a severe tornado, but certain measures can be taken to prevent some damage and injuries.

- Establish a Business Continuity Management (BCM) Plan that takes prevention, crisis management and business recovery into consideration. If a BCM plan is already in place, review and update it as needed for tornado readiness.
- Designate a BCM coordinator and a BCM team. Assign responsibility to specific employees for advance arrangements to initiate the plan.
- Develop a contingency plan to allow for continued business operations.
- Practice periodic tornado drills so everyone knows how to respond if a tornado is approaching.
- Find an interior area in the building that is secure.
- Stay tuned to a local weather station for updated storm information.
- Use spotters with two-way communication to provide a tornado watch and premise information.
- Secure large exterior appendages that could cause major damage if torn free.
- Tie down items that could be blown over in high winds.
- Inside buildings, move objects that could become airborne by winds that come inside.
- Close and secure all doors and windows.

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BUSINESS CONTINUITY MANAGEMENT: DURING A TORNADO

- If inside, stay in a safe place until the storm has passed.
- If outside, get to a basement, a sturdy building, or lie in a ditch or low-lying area.
- If in a vehicle or mobile trailer, get out and go to safety.
- Listen to the weather station to obtain updated information.

BUSINESS CONTINUITY MANAGEMENT: AFTER A TORNADO

- Conduct a roll call.
- Check all damaged areas for injured people.
- Assess the damage.
- Take steps to mitigate further damage.
- Make emergency repairs.
- Document all damage with photographs and descriptions.
- Initiate salvage operations.

TO LEARN MORE

Visit these websites:

[American Red Cross Tornado Safety](#)

[Ready.gov Tornadoes](#)

For more information, contact your local Hartford agent or visit
THEHARTFORD.COM/LOSSCONTROL.



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