

BE WARY DURING... TORNADO SEASON

Editor: Tim Miller



Although tornadoes occur in many parts of the world, they are most frequently found in the United States east of the Rocky Mountains during the spring and summer months. In an average year, 800 tornadoes are reported nationwide, resulting in 80 deaths and over 1,500 injuries. The frequency of tornadoes in Illinois is 4.7 per 10,000 square miles per year. Since Fermilab covers an area of 10 square miles, the chances of a tornado "hit" onsite is relatively small at 0.5% per year. Nonetheless, when tornadoes do occur, the results can be catastrophic. In 8/90, 29 people were killed by a devastating tornado struck Plainfield, Illinois. Recently, 76 tornadoes tore through Oklahoma and Kansas resulting in 46 deaths, hundreds of injuries, and thousands of destroyed homes and businesses.

WHAT TO DO

With a *tornado watch*, tornadoes are possible in your area. You can continue with your normal activities, but be prepared to seek shelter if conditions worsen. In a *tornado warning*, a tornado has actually been sighted or is indicated by weather radar.



At the Lab, alarms are sounded whenever a tornado warning affects the site. The outdoor alarm is a steady siren from the Outdoor Warning System. The indoor alarm consists of voice instructions from the Sitewide Emergency Warning System. If you hear either of these, you should immediately seek the best available shelter, in the following order of preference:

- designated shelter areas
- certain locations in buildings
- depressions in the ground (if outdoors)

A designated shelter area is the safest place to be. You should locate these areas *before you need them*. For buildings without designated shelters, you should select locations that are low and central in the building. Give preference to small narrow rooms without or away from glass, that are not along load-bearing walls, not near potentially-hazardous equipment, and not open to south or west. Outdoors you should lie down in a ditch or other depression. In a vehicle, move off the road, get out, and seek shelter in a building or low-lying area *away from the vehicle*. At the termination of the incident, additional instructions will be provided via the Sitewide Emergency Warning System or

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other communication from the ComCenter.

TORNADO FACTS

- Wind speed - can exceed 250 mph.
- Forward speed - stationary to 70 mph with 30 mph average.
- Direction - any, though more likely southwest to northeast.
- Damage path - can exceed one mile in width and 50 miles in length.
- Time of year - any, though more likely March through August.
- Time of day - any, though more likely between 3 and 9 p.m.

TORNADO MYTHS

Before a tornado, a person should open windows so the building will not explode.

The windward side windows are broken from flying debris or pressure and the glass flies into the room. The windows on the leeward side are sucked away from the building. Because of this atmospheric pressure change or semi-equalization of building pressure, the building does not explode.

The southwest corner of the basement is the safest location during a tornado.

Many homes are shifted off their foundations during a tornado. The southwest part of the building is more likely to lose its structure support and collapse into the southwest corner.

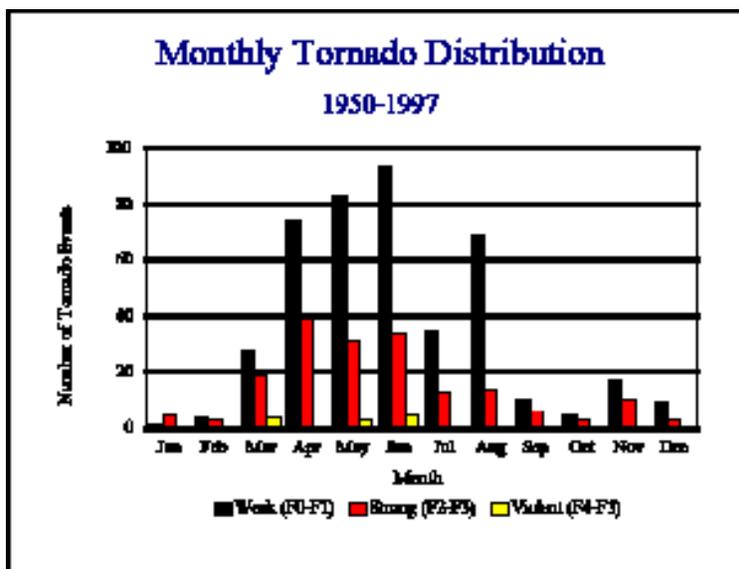
Large cities or certain towns are naturally protected from tornadoes.

While it may be that tornadoes have bypassed your town historically, this does not mean that you are immune - just lucky, so far. While it is true that topography does have some limited effect or influence on tornadoes and their paths, it does not mean that certain areas are immune.

Tie down mobile homes are safe during a tornado.

Mobile homes are never safe, with or without tie downs. Mobile homes are not constructed well enough to resist the wind forces of a tornado, even if it is anchored.

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Suggestions for ES&H message topics should be directed to Tim Miller at MS119, tmiller@fnal.gov, or X3019.*