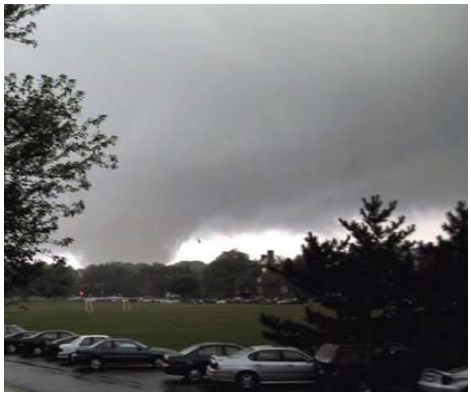
Preparing You for Emergencies:
Tornadoes

Tornado Alley is the area of the country that runs north from Texas through eastern Nebraska and northeast to Indiana. Kentucky is immediately adjacent to Tornado Alley. Kansas, Oklahoma and Texas may see more of these unpredictable and dangerous storms than other states, but you are still vulnerable to tornadoes. You don't have to be blown away when nature lets loose. It's never too early to prepare and you can take several basic steps right now to protect you, your family and your home from disaster.

First Things First - Protect Life

Know the terms used to describe tornado threats:

- **Tornado Watch** - Stay tuned to radio or television weather sources as weather conditions are favorable for tornado development.
- **Tornado Warning** - Take shelter immediately because a tornado has been sighted or a tornadic storm has been indicated on radar.
- **Severe Thunderstorm Watch** - Conditions are favorable for Severe Thunderstorm development.
- **Severe Thunderstorm Warning** - A Severe Thunderstorm is occurring or is imminent.



Tornado about to strike University of Maryland at College Park, September 24, 2001.

Purchase a NOAA Weather Radio with a battery backup and tone-alert feature, which will automatically alert you when a Watch or Warning is issued. Purchase a battery-powered commercial radio and extra batteries as well.

Have emergency supplies on hand. Make an inventory of your possessions and photograph or videotape your belongings. Keep records in a safe deposit box or some other safe place away from the premises.

When a tornado has been sighted or a Tornado Warning has been issued, go to your shelter immediately. Stay away from windows, doors and outside walls.

- In a ***house or small building***, go to the basement or storm cellar. If there is no basement, go to an interior room on the lower level (bathrooms, closets, interior hallways).

- In a ***school, nursing home, hospital, factory or shopping center***, go to pre-designated shelter areas. Interior hallways on the lowest floor are usually safest. Stay away from open spaces and windows.
- In ***a high-rise building***, go to a small, interior room or hallway on the lowest floor possible.

- Get under a piece of sturdy furniture such as a workbench or heavy table or desk and hold on to it.
- Use arms to protect head and neck.
- If in a ***mobile home, trailer, or vehicle***, get out immediately and go to a more substantial structure.
- If there is no shelter nearby, lie flat in the nearest ditch, ravine or culvert with your hands shielding your head.
- In a car, get out and take shelter in a nearby building. Do not attempt to out-drive a tornado. They are erratic and move swiftly.

Protect Your Home

Building remains at Fire Service Training Institute - University of Maryland.

Structures built to meet or exceed current model building codes for high-wind regions have a much better chance of surviving violent windstorms. The Standard Building Code, promulgated by the Southern Building Code Congress International, Inc., is one source for guidance on fortifying your home against fierce winds. Although no home can withstand a direct hit from a severe tornado, good construction will help your home survive if it's to the side of the tornado's path.

When inspecting your home, pay particular attention to the windows, doors, roof, gables and connections (roof-to-wall, wall-to-foundation). Residences in inland areas are typically not built to withstand high wind forces, and weaknesses in these elements of your home make it more vulnerable to significant damage.

If you're handy with a hammer and saw, you can do much of the work yourself. Work involving your home's structure may require a building contractor, however, or even a registered design professional such as an architect or engineer.

When Working Outside

- Replace gravel/rock landscaping material with shredded bark.

- Keep trees and shrubbery trimmed. Cut weak branches and trees that could fall on your house.

When Building or Remodeling

If you are replacing your existing windows, install impact-resistant window systems, which have a much better chance of surviving a major windstorm. These window systems are commonly available in hurricane-prone areas. If you are unable to find them locally, you can order them from manufacturers or home improvement stores in coastal areas.

Make certain your doors have at least three hinges and a dead bolt security lock with a bolt at least one inch long. Anchor door frames securely to wall framing.

Sliding glass doors are more vulnerable to wind damage than most other doors. If you are replacing your patio doors or building a new home, consider installing impact-resistant door systems made of laminated glass, plastic glazing or a combination of plastic and glass.

Because of their size and construction, garage doors are highly susceptible to wind damage. A qualified inspector can determine if both the door and the track system can resist high winds and, if necessary, replace them with a stronger system. Garage doors more than eight feet wide are most vulnerable. Install permanent wood or metal stiffeners. Or, contact the door manufacturer's technical staff for recommendations about temporary center supports you can attach and remove easily when severe weather threatens.

If you are replacing your roof, take steps to ensure that both the new roof covering and the sheathing it attaches to will resist high winds. Your roofing contractor should:

- Remove old coverings down to the bare wood sheathing.
- Remove sheathing to confirm that rafters and trusses are securely connected to the walls.
- Replace damaged sheathing.
- Refasten existing sheathing according to the proper fastening schedule outlined in the current model building code for high-wind regions.
- Install a roof covering designed to resist high winds.
- Seal all roof sheathing joints with self-stick rubberized asphalt tape to provide a secondary moisture barrier.

If you want to give your roof sheathing added protection, but it's not time to reroof, glue the sheathing to the rafters and the trusses. Use an adhesive that conforms to Performance Specification AFG-01 developed by APA — The Engineered Wood Association, which you can find at any hardware store or home improvement center.

Brace the end wall of a gable roof properly to resist high winds. Check the current model building code for high-wind regions for appropriate guidance, or consult a qualified engineer or architect.

When a Tornado Threatens

You can improve the odds of your home surviving high winds by taking these precautions, but you won't make it tornado-proof. Nor do these measures guarantee your safety. Take these additional steps to protect yourself and your family as fully as possible:

- Decide in advance where you will take shelter (a local community shelter, perhaps, or your own underground storm cellar or in-residence "safe" room). When a tornado approaches, go there immediately. If your home has no storm cellar or in-residence "safe" room and you have no time to get to a community shelter, head to the centermost part of your basement or home — away from windows and preferably under something sturdy like a workbench or staircase. The more walls between you and the outside, the better.

Peeples Hall at Kentucky Wesleyan College after a tornado on January 3, 2001

- Become familiar with your community's severe weather warning system and make certain every adult and teenager in your family knows what to do when a tornado "watch" or "warning" sounds. Learn about your workplace's disaster safety plans and similar measures at your children's schools or day care centers.
- Study your community's disaster preparedness plans and create a family plan in case you are unable to move to a community shelter. Identify escape routes from your home and neighborhood and designate an emergency meeting place for your family to reunite if you become separated. Also establish a contact point to communicate with concerned relatives.
- Put together an emergency kit that includes a three-day supply of drinking water and food you don't have to refrigerate or cook; first aid supplies; a portable NOAA weather radio; a wrench and other basic tools; a flashlight; work gloves; emergency cooking equipment; portable lanterns; fresh batteries for each piece of equipment; clothing; blankets; baby items; prescription medications; extra car and house keys; extra eyeglasses; credit cards and cash; important documents, including insurance policies.

- Move anything in your yard that can become flying debris inside your house or garage before a storm strikes. Do this only if authorities have announced a tornado “watch,” however. If authorities have announced a tornado “warning,” leave it all alone.
- Don’t open your windows. You won’t save the house, as once thought, and you may actually make things worse by giving wind and rain a chance to get inside.
- Don’t try to ride out a tornado in a manufactured home. Even manufactured homes with tie-downs overturn in these storms because they have light frames and offer winds a large surface area to push against. In addition, their exteriors are vulnerable to high winds and wind-borne debris.

For more information about protecting your family and home from tornadoes and other windstorms such as hurricanes and nor’easters, check these other publications from the Institute for Business & Home Safety: "Is Your Home Protected From Hurricane Disaster?- A Homeowner's Guide to Hurricane (Windstorm) Retrofit."

Finally, review your homeowners insurance policy periodically with your insurance agent or company representative to make sure you have sufficient coverage to rebuild your life and home after a tornado. Report any property damage to your insurance agent or company representative immediately after a natural disaster and make temporary repairs to prevent further damage.

StormReady

Americans live in the most severe weather-prone country on Earth. Each year, they cope with an average of 10,000 thunderstorms, 2,500 floods, 1,000 tornadoes, as well as an average of 6 deadly hurricanes. Due to our geographic location, potentially deadly weather could impact the University of Louisville. In order to be ready for severe weather, the University has worked to meet the criteria required by the National Weather Service’s StormReady program. Meeting these requirements and achieving certification as a StormReady University will ultimately help the University to guard against the ravages of Mother Nature.

StormReady Universities are better prepared to save lives from the onslaught of severe weather through better planning, education, and awareness. No University is storm proof, but being StormReady can help save lives. Currently there are 12 Universities and 1031 StormReady Sites in 50 states. The University of Louisville was the sixth university in the nation to receive this designation.

Requirements:

There are six guidelines that must be met in order to qualify as a StormReady University, they are:

Guideline 1: Communications & Coordination Center - The University must have a location manned 24-hours to implement emergency procedures in the event of severe weather. The Department of Public Safety Dispatch center serves as our 24-hour communication.

Guideline 2: National Weather Service Warning Reception - The Communications and Coordination Center must have 4 redundant systems to receive weather warnings. Our dispatch center receives warnings via NOAA Weather Radios, LINC and NCIC teletype, commercial television, commercial radio and the Louisville Metro Emergency Radio System.

Guideline 3: Hydrometeorological Monitoring - The Communications and Coordination Center must have at least two methods of monitoring local weather information on an ongoing basis. We monitor the weather by using internet access to the Louisville National Weather Service Radar, weather reports and monitoring local media or the weather channel.

Guideline 4: Local Warning Dissemination – The University must have at least 4 redundant systems to notify the University community of severe weather warnings. We are able to notify the University community through the use of Outdoor Warning Sirens, broadcasts over the DPS and Physical Plant Radio System, announcements over the University's intranet, cable television interruption and NOAA Weather Radios located in each building.

Deacon Hall at Kentucky Wesleyan College.

Guideline 5: Community Preparedness: - The University must have plans in place for building occupants to follow in the event of severe weather. The University must also have weather radios in each building and offer awareness training to the community. Each building has an emergency plan. Several buildings at HSC have interim plans, but the remainder of the University's buildings have comprehensive Building Emergency Action Plans (BEAPs). The University has at least one NOAA Weather Radio in each building.

Guideline 6: Administration – The University must also meet a number of administrative criteria that include: inviting National Weather Service Staff to visit the campus annually, training DPS patrol officers, dispatchers and parking staff to be Storm Spotters (a National Weather Service Training Program). The University also had to develop a procedure to notify the NWS of damage caused by storms on our campuses.

More Information Links:

http://www.fema.gov/hazard/tornado/index.shtm

http://www.redcross.org/services/disaster/0,1082,0_591_,00.html

http://www.stormready.noaa.gov/