



## **Tornadoes**

### Information for the Public

#### **What is a severe thunderstorm?**

A severe thunderstorm produces large hail that is one inch in diameter or larger, damaging winds of 58 mph or greater, and/or a tornado.

#### **What is a tornado?**

A tornado is a column of violently rotating winds extending down from a thunderstorm cloud and touching the surface of the earth.

#### **What is the difference between a tornado and a funnel cloud?**

A funnel cloud is also a column of violently rotating winds extending down from a thunderstorm; however, it does not touch the earth as a tornado does.

#### **How many tornadoes usually occur in Michigan every year?**

An average of 16 tornadoes occur in Michigan each year. Since 1950, 243 persons have been killed due to tornadoes. During this same time, Michigan has experienced 950 tornadoes.

#### **When do tornadoes generally occur?**

Most tornadoes occur during the months of May, June, July, and August primarily in the late afternoon and evening hours. However, tornadoes can occur anytime of the day or night in almost any month during the year.

#### **How fast do tornadoes travel?**

Tornadoes generally travel from the southwest at an average speed of 30 mph. However, some tornadoes have very erratic paths, with speeds approaching 70 mph.

#### **How far do tornadoes travel once they touch the ground?**

The average Michigan tornado is on the ground for less than ten minutes and travels a distance of about five miles. However, they do not always follow the norm and have been known to stay on the ground for more than an hour and travel more than 100 miles.

#### **When is a tornado or severe thunderstorm watch issued?**

A tornado or severe thunderstorm watch is issued whenever conditions exist for severe weather to develop. Watches are usually for large areas about two-thirds the size of Lower Michigan and are usually two-to-six hours long. Watches give you time to plan and prepare.

### **When is a tornado or severe thunderstorm warning issued?**

The local National Weather Service (NWS) office issues a **tornado warning** whenever NWS Doppler Radar indicates a thunderstorm is capable of producing a tornado or when a tornado has been sighted by a credible source. A **severe thunderstorm warning** is issued whenever a severe thunderstorm is observed or NWS Doppler Radar indicates a thunderstorm is capable of producing damaging winds or large hail. Warnings are issued for even smaller areas, such as parts of counties. These “storm-based” NWS warnings are issued for the threatened area in a shape of a polygon. The “polygon” warnings only include sections of a county or group of counties and usually last for 30 to 90 minutes in length. You must act immediately when you first hear the warning. If severe weather is reported near you, seek shelter immediately. If not, keep a constant lookout for severe weather and stay near a shelter.

### **What is a special marine warning?**

The NWS will issue a special marine warning for the Great Lakes and the connecting waterways when a strong or severe thunderstorm develops or moves over the water. The special marine warning is issued for boaters, both recreational and commercial. For residents and visitors of Michigan’s many coastal communities, the special marine warning provides valuable information about a storm that is about to move onshore.

### **How can you prepare for a tornado/thunderstorm?**

- Plan ahead. Be sure everyone in your household knows where to go and what to do in case of a tornado warning.
- Know the safest location for shelter in your home, workplace and school. Load bearing walls near the center of the basement or lowest level generally provide the greatest protection.
- Know the location of designated shelter areas in local public facilities, such as schools, shopping centers and other public buildings.
- Have emergency supplies on hand, including a battery-operated radio, flashlight and a supply of fresh batteries, first-aid kit, water and cell phone.
- Make an inventory of household furnishings and other possessions. Supplement it with photographs of each room. Keep in a safe place.

### **What should you do when a thunderstorm approaches your area?**

- Seek safe shelter when you first hear thunder, see dark threatening clouds developing overhead or lightning. Count the seconds between the time you see lightning and hear the thunder. You should already be in a safe location if that time is less than 30 seconds. Stay inside until 30 minutes after you last hear thunder. Lightning can strike more than 10 miles away from any rainfall!
- When you hear thunder, run to the nearest large building or a fully enclosed vehicle (soft-topped convertibles are not safe). You are not safe anywhere outside.
- If you are boating or swimming, get to land and shelter immediately.

- Telephone lines and metal pipes can conduct electricity. Unplug appliances not necessary for receiving weather information. Use plug-in telephones only in an emergency.

### **What to do when a tornado warning is issued for your area?**

- Quickly move to shelter in the basement or lowest floor of a permanent structure.
- In homes and small buildings go to the basement and get under something sturdy, like a workbench or stairwell. If no basement is available, go to an interior part of the home on the lowest level. A good rule of thumb is to put as many walls between you and the tornado as possible.
- In schools, hospitals and public places move to designated shelter areas. Interior hallways on the lowest floors are generally best.
- Stay away from windows, doors and outside walls. Broken glass and windblown projectiles cause more injuries and deaths than collapsed buildings. Protect your head with a pillow, blanket or mattress.
- If you are caught outdoors, seek shelter in a basement, shelter or sturdy building. If you cannot quickly walk to a shelter you should immediately get into a vehicle, buckle your seat belt and try to drive to the closest sturdy shelter.
- If flying debris occurs while you are driving, pull over and park.
- As a last resort, stay in the car with the seat belt on. Put your head down below the windows, covering with your hands and a blanket if possible.
- If you can safely get noticeably lower than the level of the roadway, exit your car and lie in that area, covering your head with your hands.
- If you are boating or swimming, get to land and shelter immediately.

### **What should you do after a tornado/thunderstorm?**

- Inspect your property and motor vehicles for damage. Write down the date and list damages for insurance purposes. Check for electrical problems and gas leaks and report them to the utility company at once.
- Watch out for fallen power lines. Stay out of damaged buildings until you are sure they are safe and will not collapse. Secure your property from further damage or theft.
- Use only approved or chlorinated supplies of drinking water. Check food supplies.

#### **Reference:**

1. 2011 Michigan Severe Weather Awareness: <http://mcswa.com/default.aspx>