

# SPOTTER'S GUIDE

National Weather Service, Cleveland, OH

<http://www.erh.noaa.gov/cle/>



## TO REPORT SEVERE WEATHER:

**CALL 1-800-262-9683 or 216-265-2372 (unlisted)**

These numbers are unlisted. For routine business, call (216) 265-2370 Monday through Friday 830 am-430 pm..

## WHAT TO REPORT:

1. Tornado, funnel cloud, or wall cloud
2. Large hail (1/2 inch or greater...be specific on size... see next page for estimating size)
3. Actual wind damage or winds measured/estimated at 50 mph or more (see next page for estimating wind speeds)
4. Flooding (stream out of bank, dam failure, ice jam flooding, or more than a foot of water in streets)
5. Heavy rain (1 inch or more) or Heavy snow (6 inches or more)
6. Death or serious injury caused by any weather phenomena

**TO REPORT:** Identify yourself as a SKYWARN spotter. Provide your **name** or **call sign** (if amateur radio), **location**, a brief description of the **severe weather and damage**, and the **time** it occurred.

## Reporting Methods:

1. Amateur Radio (Backbone 52.680 closed net)
2. Telephone (1-800-262-9683)
3. Email eSpotter web site (<http://eSpotter.weather.gov>)

## ESTIMATING HAIL SIZE...

pea size.....1/4 inch  
marble size.....1/2 inch  
penny size..... 3/4 inch

quarter size.....1 inch  
golfball size.....1-3/4 inches  
baseball size.....2-3/4 inches

## ESTIMATING WIND SPEEDS...

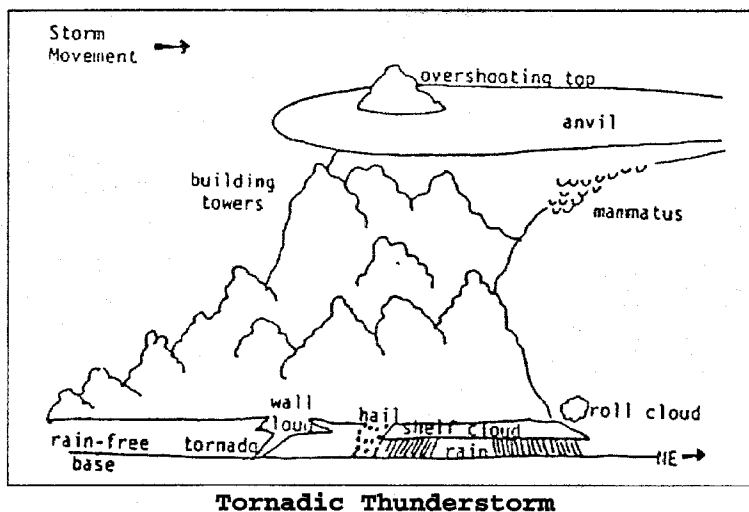
### MPH

### Beaufort Wind Speed Evaluation Chart

0-3	Smoke rises vertically or drifts slightly
4-7	Wind felt on face, leaves rustle, wind vane moved
8-12	Leaves and twigs in motion, light flags extended
13-18	Dust raised, loose paper raised, small branches move
19-24	Small leafy trees sway, crested wavelets form on lakes
25-31	Large branches in motion, whistling in telephone wires
32-38	Whole trees in motion, inconvenience walking against wind
39-46	Twigs break off trees, wind impedes progress walking
47-54	Slight structural damage, mainly roof shingles
55-63	Trees uprooted, roof damage common
64-72	Widespread damage to roofs and windows
>73	Hurricane force winds, structural damage renders buildings uninhabitable

## GENERAL TORNADO INFORMATION...

Tornadoes usually come from the southwest and rotate counter-clockwise. They form on the back, or trailing edge of the thunderstorm. The best position to see a tornado is to the southeast of the storm (see diagrams below and next page and narrative next page). Most Ohio/Pa. tornadoes occur from April through July between 2 pm and 10 pm but keep in mind that they may occur anytime of the year day or night.



## PROGRESSION THROUGH A SEVERE STORM

Features of a potentially severe thunderstorm as it passes over your spotter location.

1. **APPROACH** - Dark, sometimes greenish "boiling" clouds to the west (southwest or northwest) approaching. Watch for lightning!
2. **GUST FRONT** - **Shelf** cloud or **roll** cloud with initial wind gust. The first gust is often the strongest. A **downburst (microburst)** often extends to the gust front.
3. **HEAVY RAIN** - Small hail. A downburst still possible.
4. **LARGE HAIL** - Rain may lighten.
5. **WALL CLOUD** - Look for rotation! A rain free cloud base indicates a strong updraft and a likely place for the wall cloud. In Ohio the wall cloud may be obscured by rain and low clouds.
6. **FUNNEL/TORNADO** - Look for rotation...don't be fooled by ragged low clouds. Take appropriate safety measures.
7. **EXIT** - Storm passes to your east (northeast or southeast). Briefly report any significant damage, then clear line/airways to allow other spotters access.

## SPOTTER SAFETY

1. Most deaths and injuries from tornadoes occur from being struck by flying debris made airborne by the high winds.
2. If caught outside with no substantial building, lie flat in a ditch or low spot to protect yourself from wind and debris. Watch for rising water.
3. Cars are safe places in case of lightning, but not in case of tornadoes.
4. Never try to out run a tornado in an automobile. If a tornado is nearby abandon your vehicle and lie flat in a ditch or low spot.
5. Moving water is very powerful, it only takes a slight current and less than 2 feet of water to push an automobile off the road.
6. Review these safety rules and additional rules found in safety pamphlets regularly.

## SPOTTER CLUES

1. The initial gust of wind (gust front) of the thunderstorm is often the strongest "straight line" wind of the storm. Tornadoes rarely occur in the gust front but "straight line" wind damage can often occur.
2. Tornadoes develop from a wall cloud. The wall cloud will often form in a rain free cloud base at the trailing edge of the storm. In Ohio a rain free base may not develop due to abundant summer moisture.
3. Wall clouds will often develop 15 to 20 minutes before a tornado.
4. Tornadic wall clouds always rotate. Usually you can see rotation although it may rotate slowly. If it is not rotating it is probably not a wall cloud.
5. Large hail will often precede a tornado.

## Useful Web Sites

<b>NWS Cleveland</b>	<a href="http://www.erh.noaa.gov/cle/"><u>www.erh.noaa.gov/cle/</u></a>
<b>eSpotter</b>	<a href="http://espotter.weather.gov"><u>espotter.weather.gov</u></a>
<b>Storm Prediction Center (SPC)</b>	<a href="http://www.spc.noaa.gov"><u>www.spc.noaa.gov</u></a>
<b>National Web Site</b>	<a href="http://www.weather.gov"><u>www.weather.gov</u></a>
<b>Ohio River Forecast Center (OHRFC)</b>	<a href="http://www.erh.noaa.gov/ohrfc"><u>www.erh.noaa.gov/ohrfc</u></a>
<b>Hydrometeorological Prediction Center</b>	<a href="http://www.hpc.ncep.noaa.gov"><u>www.hpc.ncep.noaa.gov</u></a>
<b>NOAA Weather Radio</b>	<a href="http://www.nws.noaa.gov/nwr"><u>www.nws.noaa.gov/nwr</u></a>
<b>NWS Publications</b>	<a href="http://www.nws.noaa.gov/om/brochures.shtml"><u>www.nws.noaa.gov/om/brochures.shtml</u></a>
<b>Wind Chill Chart</b>	<a href="http://www.nws.noaa.gov/om/windchill/index.shtml"><u>www.nws.noaa.gov/om/windchill/index.shtml</u></a>
<b>Heat Index Chart</b>	<a href="http://www.crh.noaa.gov/pub/heat.htm"><u>www.crh.noaa.gov/pub/heat.htm</u></a>
<b>National Climate Data Center</b>	<a href="http://www.ncdc.noaa.gov"><u>www.ncdc.noaa.gov</u></a>