

WCARES Severe Weather Reference Guide

Middle Tennessee can and does experience severe weather from time to time to include severe thunderstorms and tornados. All WCARES members are encouraged to attend a storm spotter class offered by the National Weather Service (NWS). Dates and times of scheduled classes in our area will be broadcast on the repeater system and in the WCARES Notes. Whenever there is a possibility of severe weather in our area, maintain a listening watch on the linked repeater system.

If the threat of severe weather appears that it will affect Williamson County, one of the net control operators will activate the weather net. The net control operator will appoint a liaison operator to send and receive information to and from the NWS office in Old Hickory.

The net control station will take check-ins from all monitoring amateurs. This is a critical time so please keep you comments brief. Listen to the instructions from the net control operator. Listed below is a list of the specific items you should report as well as items you should NOT report.

Once you have checked into the net you are expected to be available until the net is closed. If you must leave before the net is closed, be sure and tell the net control operator that you are leaving.

Include the following information when reporting:

WHO	Your name and call sign
WHAT	Report severe events by using terms which effectively communicate your observation. Do not use vague terms like large hail or damaging winds
WHEN	Time is very important. If you discover damage after a storm passes, report the time as unknown
WHERE	The location of the event must be given in easily understood terms, usually relative to a well-known city or from a highway intersection

Types of reports:

Tornados	Tornadoes, funnel clouds, wall clouds or rotating wall clouds. If a tornado, be sure to mention any damage
Hailstones	Any size hail occurring. If hail has a diameter of ¾ inch or greater, it is a severe thunderstorm
Thunderstorm Winds	Storm winds equal to or greater than 58 mph. Wind damage to structures, downed power lines, uprooted trees or large limbs torn out of trees
Flooding	Any flooding that covers roadways or low water crossings or any structural flooding
Heavy Rain	Rainfall in excess of 1 inch per hour

Estimating Hail Sizes

Intensity	Description	Actual Size
Non Severe	Pea	0.25 inch
	Mothball	0.50 inch
Severe	Penny	0.75 inch
	Nickel	0.88 inch
	Quarter	1.00 inch
	Half Dollar	1.25 inch
	Golf Ball	1.75 inch
	Tennis Ball	2.50 inch
	Baseball	2.75 inch
Softball	4.50 inch	

Beaufort Scale for Estimating Wind Speeds

Wind Speed (MPH)	Wind Effects Observed on Land
< 7	Wind felt on face, leaves rustle, ordinary vane moved by wind
8-12	Leaves and small twigs in constant motion; wind extends light flag
13-18	Raises dust and loose paper; small branches are moved
19-24	Small trees in leaf begin to sway; wavelets form on inland water
25-31	Large branches in motion; inconvenience felt walking against the wind
32-38	Whole trees in motion; inconvenience felt walking against the wind
39-46	Twigs break off trees; generally impedes progress
47-54	Slight structural damage occurs
55-63	Seldom experienced inland; trees uprooted; considerable structural damage occurs
64-72	Very rarely experienced inland; accompanied by widespread damage

Due to the nature of severe weather, spotters must be extremely cautious against making non-severe reports or reporting tornado look –alike phenomena. Consequently, **DO NOT** make the following reports.

<p>“<u>Mammatus or Low Hanging Clouds</u>”- many low hanging scud clouds are reported as tornadoes. Before reporting tornadoes, funnel clouds and wall clouds, make sure you note rotation, rapid vertical motion, that they are persistent and that the formation is located at the proper position. (Typically under the rain free base at the southwest edge of the storm.)</p>
<p>“<u>Heavy Wind or Damaging Wind</u>”- There is a possibility of miscommunication so be more specific. If winds are below sever limits (58 mph), DO NOT report them. If winds are greater that 58 mph or if damage has occurred then make your report.</p>
<p>“<u>Lots of Lightning</u>”- Every thunderstorm has lighting. It is an inherent danger that need not be reported.</p>
<p>“<u>Heavy Rain</u>”- Does not constitute a meaningful report. Only report rainfall rates that are in excess of 1 inch per hour or rain that is causing flooding.</p>

“Marble or Ball Size Hail”- As marbles and balls come in many sizes, these reports cannot be meaningful. Instead, give estimated hail size in relation to the size of various coins (penny, nickel, quarter) or balls (golf, tennis, baseball, softball).