



# Weather Spotter Quick Reference Guide

National Weather Service (NWS) – Charleston, SC <http://www.weather.gov/chs> [nws.charlestonsc@noaa.gov](mailto:nws.charlestonsc@noaa.gov)

Your reports are critical to helping the NWS achieve its mission of saving lives and property through the issuance of timely warnings. The **NWS needs these reports**: tornadoes, funnel clouds, hail of any size, wind gusts (estimated or measured) of 50 mph or higher, flooding (water closing roads or entering buildings), and impact of damage (property, trees, power-lines, etc). Being an effective weather spotter may take years to master, and takes practice. **Remember, you are mobile! Report severe weather or damage wherever you are!**

## Damaging Winds

Straight-line Wind Gust Estimates	
<b>45-57 mph</b> (39-49 kts)	<b>Non Severe</b> - Large trees bend; twigs, small limbs break, and a few larger dead or weak branches may break. Old/weak structures (e.g., sheds, barns) may sustain minor damage (roof, doors). Some loose shingles may be removed from houses.
<b>58-74 mph</b> (50-64 kts)	<b>Severe</b> - Large limbs break; shallow rooted trees pushed over. Semi-trucks overturned. More significant damage to old / weak structures. Shingles, awnings removed from houses; damage to chimneys and antennas; mobile homes, carports incur minor structural damage; large billboard signs may be toppled.
<b>75-89 mph</b> (65-77 kts)	<b>Hurricane Force</b> - Widespread tree damage (trees either broken or uprooted). Mobile homes may incur more significant structural damage; be pushed off foundations or overturned. Roofs may be partially peeled off industrial/commercial/warehouse buildings. Some minor roof damage to homes. Weak or open structures (e.g. farm buildings, airplane hangars) may be severely damaged.
<b>90+ mph</b> (78+ kts)	<b>Significant Severe</b> - Groves of trees flattened. Mobile homes severely damaged; moderate roof damage to homes. Roofs partially peeled off homes and buildings. Barns and sheds completely demolished.

## Tornado

Enhanced Fujita Scale (EF Scale)	
<b>EF0: 65 – 85 mph</b>	<b>Light Damage</b> – Loss of roofing material, large tree branches broken, some large trees uprooted
<b>EF1: 86 – 110 mph</b>	<b>Moderate Damage</b> – Considerable loss of roofing, mobile homes flipped, bent light poles
<b>EF2: 111 – 135 mph</b>	<b>Considerable Damage</b> – Large root sections removed, most walls standing, light poles collapsed
<b>EF3: 136 – 165 mph</b>	<b>Severe Damage</b> – Exterior walls & some interior walls removed, mobile homes destroyed
<b>EF4: 166 – 200 mph</b>	<b>Devastating Damage</b> – All home walls collapsed, partial destruction of masonry hotels and strip malls
<b>EF5: &gt;200 mph</b>	<b>Incredible Damage</b> – Destruction of home/building, building slab swept clean, steel deformed

Note: You need not give an EF-scale estimate with a tornado report. Tornado intensity is largely determined after NWS damage assessments.

## Hail Size

Hail Size Diameter	
0.25 – 0.375" - Pea	0.75" – Penny
0.88" – Nickel	1" – Quarter
1.25" – Half Dollar	1.5" – Ping Pong Ball
1.75" – Golfball	2" – Lime
2.5" – Tennis Ball	2.75" – Baseball
3" – Large Apple	4" – Softball
4.5" – Large Grapefruit	4.75 - 5" – CD/DVD

Note: Avoid using "Marble sizes" to describe hail, since there are many different sizes of marbles.

## Watch/Warning Definitions

**Severe Thunderstorm Watch** - Conditions are favorable for thunderstorms to produce large hail in excess of 1 inch, and/or damaging winds 58+ mph; Isolated tornado possible.  
**Severe Thunderstorm Warning** - Radar has detected, or a report has indicated, a severe thunderstorm producing large hail or damaging winds in progress or imminent.  
**Tornado Watch** - Conditions are favorable for tornadoes.  
**Tornado Warning** - Radar has indicated a possible tornado or a report has indicated a tornado in progress.

## Tips for Providing Useful Reports

- Safety first ( report is #2 priority). Never put yourself or others in harm's way.
- Know what you're reporting. False reports do more harm than no report at all. Not sure? – Don't report.
- Tools to help you provide accurate reports include:
  - NOAA Weather Radio
  - Accurate Clock
  - Map/GPS
  - Paper and Pencil
  - Ruler
  - This Guide Sheet
- **Report the Time, Event and Location (TEL) of event:**
  - Exact **Time** event *occurred* and time of call.
  - **Event** details, including any damage, injuries and fatalities.
  - **Location** of Event – Lat/Lon, or distance and direction from a landmark (city, intersection, etc).
  - (Optional) Your name, e-mail , or phone number, so we can contact you if we have questions.
- **An example of an accurate report to the NWS:**  
*"My name is Joe Smith and I am a trained weather spotter. At 558 pm, I observed straight-line wind gusts estimated at 65 mph about 1.2 miles south of Any Town, SC in Any County. A tree fell onto a house injuring 2 people near the intersection of A and B Streets."*
- **Ways to report to the National Weather Service:**
  - Unlisted NWS Spotter number – (For trained Spotters)
  - e-mail - [nws.charlestonsc@noaa.gov](mailto:nws.charlestonsc@noaa.gov)
  - General NWS toll-free number: 888-383-2024
  - Twitter – using #wxreport tag  
 More about Twitter and NWS Storm Reports:  
[www.nws.noaa.gov/stormreports](http://www.nws.noaa.gov/stormreports)